

COLLABORATIVE ROLES OF NONPROFITS IN CLIMATE CHANGE ADAPTATION STRATEGIES:

INSTITUTIONAL COLLECTIVE ACTION FRAMEWORK

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The dissertation examines factors influencing nonprofit organizations' contribution to collaborative governance for climate change adaptation and nonprofit roles in the collaboration. Why an organization collaborates with others has long been a concern of scholars. However, in a majority of empirical studies, collaboration has been considered as a dichotomous concept. To fill the gap, this study considers organizations' contribution to collaboration, i.e., collaboration level in terms of power, joint activities, human resource, funding, and information sharing. To understand contribution of nonprofits to collaboration for climate change adaptation, this research employs the institutional collective action framework suggesting that organizations work together when expected benefits are greater than collaborative risks. Survey data from 101 nonprofit private organizations (*beyoungri mingan danche*) in South Korea, which are legally defined in the Assistance for Nonprofit, Nongovernmental Organizations Act, are analyzed. Finding is that government funding and social relationship are strongly associated with nonprofit contribution to collaboration, highlighting that the financial stability of nonprofit organizations and mutual trust among entities based on routine interaction are critical motives for nonprofit collaboration. Finding also reveals that Korean nonprofits mainly play a role as social capital creators in climate change adaptation. The finding also highlights that *Sang Bu Sang Jo* (相扶相助) among community members is a key concept to encourage nonprofit engagement in climate change adaptation in the Korean context.

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By

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT.....	iii
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
CHAPTER 1. INTRODUCTION.....	1
1.1 Collaboration in Climate Change Adaptation	3
1.1.1 International Approach to Collaborative Governance for Climate Change Adaptation	3
1.1.2 U.S. Approach to Collaborative Governance of Climate Change Adaptation	5
1.2 Overview of the Study	7
1.2.1 Objective and Research Questions	7
1.2.2 Scope of the Study	8
1.2.3 Theoretical and Practical Implications.....	10
1.3 Organization of the Study	11
CHAPTER 2. NONPROFIT CONTRIBUTION TO COLLABORATION FOR CLIMATE CHANGE ADAPTATION.....	14
2.1 Overview: Different Theoretical Frameworks Explaining Collaboration	14
2.1.1 Institutional Collective Action Framework	15
2.1.2 Resource Dependence Theory.....	20
2.1.3 Transaction Cost Theory	22
2.1.4 Summary of Three Theoretical Frameworks	26
2.2 Why Nonprofits Contribute to Collaboration? Institutional Collective Action Framework	28
2.2.1 Interorganizational Collaboration.....	28
2.2.2 Institutional Collective Action Dilemmas.....	31
2.3 Determinants of Nonprofit Contribution to Collaboration	32
2.3.1 Organizational Factors	33
2.3.2 Government Factors	36

2.3.3	Interorganizational Factors	39
2.3.4	Community Factors	41
CHAPTER 3. NONPROFIT ROLES IN CLIMATE CHANGE ADAPTATION.....		44
3.1	Why the Nonprofit Roles Are Important in Collaborative Governance for Climate Change Adaptation?	44
3.2	Theoretical Frameworks Explaining Nonprofit Roles	47
3.2.1	Nonprofits as Supplements, Complements, and Adversaries	48
3.2.2	Nonprofits as the Intersection of Demand vs. Supply and Instrument vs. Expression	54
3.2.3	Nonprofits as Multiplayers	58
3.2.4	Summary of Three Perspectives on Nonprofit Roles.....	67
CHAPTER 4. RESEARCH DESIGN		70
4.1	Site Selection: South Korea.....	70
4.1.1	Vulnerability to Climate Change	70
4.1.2	Collaborative Governance for Climate Change Adaptation	71
4.1.3	Nonprofit Sector in South Korea.....	72
4.2	Data Collection.....	77
4.3	Measurements	84
4.3.1	Contribution of Nonprofits Organizations to Collaboration.....	84
4.3.2	Roles of Nonprofit Organizations in Collaborative Governance	89
CHAPTER 5. DATA ANALYSIS AND FINDINGS		94
5.1	Nonprofit Contribution to Collaboration for Climate Change Adaptation	94
5.1.1	Determinants of Nonprofit Contribution to Collaboration	94
5.1.2	Effects of Determinants on Each Component of the Nonprofit Contribution to Collaboration.....	99
5.2	Nonprofit Roles in Climate Change Adaptation.....	104
5.2.1	General Tendency of the Nonprofit Role.....	104
5.2.2	Comparison of the Nonprofit Roles by Service Areas.....	108
CHAPTER 6. CONCLUSION.....		110
6.1	Summary of Findings.....	110

6.1.1	What Influences Nonprofit Contribution to Collaboration?.....	110
6.1.2	What are the Nonprofit Roles in Climate Change Adaptation?	112
6.2	Contribution to Scholarship and Practice	114
6.3	Limitations and Suggestions for Future Study	115
APPENDIX A. SURVEY INSTRUMENT		118
APPENDIX B. IRB APPROVAL LETTER.....		126
REFERENCES.....		128

LIST OF TABLES

	Page
Table 1.1: Scope of Nonprofits in the Study	9
Table 2.1: Strengths and Weaknesses of Theoretical Frameworks.....	27
Table 2.2: Predictors of Nonprofit Contribution to Collaboration and Hypotheses	43
Table 3.1: Nonprofit Role Typology (Young, 1999).....	48
Table 3.2: Comparison of Nonprofit Role Typologies.....	67
Table 4.1: Main Hazards and Disasters in South Korea	71
Table 4.2: Classification of the Nonprofit Organizations in South Korea	76
Table 4.3: Population of the Survey (N = 1468).....	80
Table 4.4: Profile of the Survey Sample.....	82
Table 4.5: Structure of the Survey Questionnaire	83
Table 4.6: Measurements of Variables.....	88
Table 4.7: Survey Items for Measurements of the Nonprofit Roles.....	91
Table 4.8: Factor Analysis of Nonprofit Roles Items.....	92
Table 5.1: Descriptive Statistics of Explanatory Variables.....	94
Table 5.2: Multicollinearity Statistics.....	95
Table 5.3: Linear Regression Models for Nonprofit Contribution to Collaboration.....	96
Table 5.4: Descriptive Statistics of the Contribution to Collaboration.....	99
Table 5.5: Linear Regression Models for Each Components of the Contribution to Collaboration	102
Table 5.6: Descriptive Statistics of Nonprofit Roles.....	105

LIST OF FIGURES

	Page
Figure 2.1: Continuum of Organizational Sharing	30
Figure 2.2: Theoretical Framework.....	33
Figure 3.1: Matrix of Nonprofit Roles	56
Figure 3.2: Diagrams of Nonprofit Roles (Moulton & Eckerd, 2012).....	65
Figure 3.3: Nonprofit Role Components Matching of Three Typologies.....	69
Figure 4.1: Diagram of Nonprofit Sector in South Korea.....	76
Figure 5.1: Frequency of the Nonprofit Roles in Climate Change Adaptation	105
Figure 5.2: Comparison of Nonprofit Roles in Climate Change Adaptation by Service Areas ...	108

CHAPTER 1

INTRODUCTION

Climate change issue is a global collective action problem because solving the problem involves major participants regardless of borders to make coordinated efforts to reduce greenhouse gas emission (Sandler, 2004). Threats due to climate change are the cumulative result of multiple entities such as individuals, groups, and countries, and thus requiring global solutions at the international level (Ostrom, 2010). Not only countries who are responsible for global warming but also ones not responsible are exposed to negative externalities of climate change. Actions agreed upon at the global level are necessary to reduce climate change impacts.

Based on Ostrom (2010), collective action is a “settings where decisions about costly actions are made independently but outcomes jointly affect everyone involved (p.551).” In the same vein, Sandler (2004) argues that collective action requires strategic interactions where choices and the effects of the choices influence not only one's own actions but also the actions of others. Participation in the global effort to reduce greenhouse gas emission is determined depending on political and economic situations of each actors (i.e., country, municipalities, groups, and individuals), but positive externalities of greenhouse gas reduction are not constrained within the boundaries of participants. One argument is that if a goal of the Paris Agreement is achieved, the limitation of temperature rise is applied to the world rather than to only participants.

As a representative type of collective action dilemma, there have been controversies about climate change issues. Climate change generates profound unfairness between those

who incur climate change and those who are most negatively influenced by it (Huq et al., 2007). More specifically, in terms of individual, while advantaged groups tend to contribute most to climate change with a life pattern of high-energy consumption, the disadvantaged groups with least consumed energy are most at risk. Likewise, at the level of country, developed countries most emit greenhouse gas, catalyzing climate change, but underdeveloped countries most bear costs in terms of damages.

Due to the uncertainty and externalities of climate change effects on the world, adaption of climate change requires joint actions among governments, private and nonprofit sectors. To achieve common goals, an effective mitigation of climate change effects by reducing greenhouse gas emission, multiple entities establish partnerships and comply with the formal and informal agreements. Importance of multiple governance at different scales in coping with climate change has been emphasized (Ostrom, 2010). The polycentric approach to climate change adaptation includes from a household action throughout an international collaboration.

However, engagement in climate change adaptation is limited due to non-excludability of the collective benefits. Based on the conventional collective action theory, no one will voluntarily engage in the actions for climate change adaption without institutions preventing free-riding and shirking (Prakash & Potoski, 2007). For example, withdrawal from the Paris Agreement results in no penalty. Moreover, there are no formal authorities over the participating countries to meet the proposed target temperature.

Climate change issues are associated with various policy areas such as environment, disaster management, energy, public health, agriculture, etc. Especially, from the disaster risk reduction perspective, climate change adaptation is critical since climate change is a key factor

that leads an increase of disaster risks (Forino et al., 2015). Moreover, disaster risk reduction measures can function as climate change adaptation measures (or vice versa). Precipitation has been anticipated to be more intense and frequent, resulting in flooding of low-level areas. An increase of melted ice due to global warming is directly associated with rising sea level, and thus exacerbating shoreline erosion and water salinization. Especially, underdeveloped countries are more severely affected than the developed ones. Sea level rise is critical to island countries. According to UNISDR (UN Office for Disaster Risk Reduction), \$2.245 trillion of direct economic losses due to extreme weather events was reported between 1998 and 2017. It presents a big rise compared with losses during the previous two decades, \$895 billion, representing the increasing threat of climate change (United Nations, 2018).

Climate change is also influential to the natural ecosystem. The Everglades in South Florida represent aquatic and territorial ecosystems that are threatened by rising sea level resulted from climate change. The anticipated risks from climate change, such as sea level rise, drought, and high temperature, endanger aquatic habitat, and eventually endanger territorial animals that rely on plants and animals that inhabit estuaries, rivers, and marshes (Pearlstine et al., 2010).

1.1 Collaboration in Climate Change Adaptation

1.1.1 International Approach to Collaborative Governance for Climate Change Adaptation

As a part of collaborative governance at the international level for mitigating climate change impacts, international agreements have been adopted (Kelman, 2015). For example, the United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty adopted in 1992, aiming to prevent anthropogenic interference with environment by

constraining greenhouse gas emission. Within the UNFCCC, the Kyoto Protocol was adopted in 1997, calling for limiting greenhouse gas emission of industrialized countries for the first time (Breidenich et al., 1998). Also, the Paris Agreement, a legally binding treaty prescribing each member country must set a goal of CO₂ reduction, was adopted in 2015 (UNFCCC, 2016).

Important collaborative governance for climate change adaptation also can be found through the Hyogo Framework for Action (HFA). As a part of an international strategy for reducing disaster risks caused by climate change, it was adopted by the UN World Conference for Disaster Reduction in 2005 for the period of 2005 through 2015. The HFA calls for building resilience of nation through communities with a focus on identifying risks, enhancing early warning, and sharing knowledge (UNISDR, 2005).

The HFA has been extended to the Sendai Framework for Disaster Risk Reduction 2015-2030 as a successive global strategy for disaster risk reduction. The Sendai Framework is one of the major agreements of the post 2015 development agenda, highlighting the significance of collaborative governance among all stakeholders including all levels of governments, public agencies, nonprofits, private sectors, etc. (UNISDR, 2015).

Another global agreement of the post 2015, the Sustainable Development Goals (SDGs), was ratified by countries at UN Summit of 2015. The SDGs were voluntarily set as a successor to the Millennium Development Goals for the purpose of seeking for sustainable development, while tackling climate change (United Nations, 2020). These long-term agreements identify potential risks resulted from climate change and suggest adaptation or mitigation strategies for climate change impacts.

However, there has been debates regarding climate change adaption at international

level. Developing countries posit that developed countries are primarily responsible for current global warming. Thus, they are reluctant to bear equal burdens for reducing greenhouse gas emission (Ostrom, 2010).

1.1.2 U.S. Approach to Collaborative Governance of Climate Change Adaptation

In the context of climate change, one of the major concerns is sea level rise (SLR). Based on the United States National Climate Assessment of 2012, SLR is expected to have significant impacts on the United States. More than eight-millions of people live in coastal communities, which are at risk of flooding. Many of national assets including military, business, energy, and ecosystem facilities are also located on the coast or in the ocean (NOAA, 2012). For example, sea level rise of a three-foot is expected to submerge more than a third of South Florida, threatening the 5.5 million of residents along the coast (Vella et al., 2016).

The accelerated rate of sea level rise cannot be confidently estimated. The uncertainty is generated because we cannot clearly explain the influence of climate change mitigation strategies on global warming nor loss rates of Greenland and Antarctic ice sheets.

Unpredictable effects of ground water pumping and water storage on sea level rise result in uncertainty of sea level rise as well. Another source of uncertainty is related to winds and ocean current, and salinity (Butler et al., 2016). Despite a difficulty of predicting SLR, it was estimated in 2012 that global mean sea level rise is between 0.2 and 2.0 meters by 2100.

While sea level rise has been estimated at the international level, there is also a need to examine local distinctions when it comes to environment concerns. Because rise of sea level varies highly across time and location along the coast, SLR-related decisions at local levels must take into account long-term environmental change. Local factors driving environmental change

must be considered as well (NOAA, 2012). For example, an identical amount of SLR has different influences on the regions, depending on the industry types (e.g., agriculture, fishing, and forestry) of the regions.

Rising sea level results in problematic influences on coastal community. Sea level rise could make the function of drainage infrastructures weakened and exacerbate coastline erosion. Moreover, rising sea level could catalyze saltwater intrusion on coastal aquifer (e.g., the Biscayne Aquifer), threatening drinking water supply for the population of Southeast Florida (Butler et al., 2016). Inundation and storm surge flooding of coastal communities is also expected to happen more frequently as a result of rising sea level (Butler et al., 2016).

The U.S. government has pursued climate change adaptation through legislation and finance. For the research of global warming-related issues, the *Global Change Research Act* was legislated in 1990. The Act mandates the U.S. Global Change Research Program (USGCRP) to conduct the National Climate Assessment and to create a report every four years for Congress and the President (USGCRP, 2018). USGCRP assesses climate change impacts on various fields of the society such as environment, energy, land use, water resource, and human health. The research program also analyzes major trends in global change. The findings of the research serve as an information in decision-making of climate policies. The Climate Change Funding, a federal funding for research, adaptation, technology, and international aids for developing countries, has been operated as well since 1993. The Fund amounts to \$11.6 billion as of 2014 (GAO, 2019).

Nationwide engagement of local governments in mitigating climate impact is exemplified by the U.S. Mayors' Climate Protection Agreement (Mayors' Agreement), which

was adopted on the 2005 U.S. Conference of Mayors. The Mayors' Agreement promotes more than 1,000 municipalities across the nation to take actions for addressing problems induced by climate change and resolving the problems collectively. The national model of collaboration for climate adaptation has an effect of encouraging regional collaboration among municipalities. For example, the Mayors' Climate Action Pledge of Southeast Region in Florida was promoted to be aligned with the U.S. Mayors' Agreement, while advancing the national goals.

However, climate change policies are not making progress, and are even declining for the reason of political economy. First, political fragmentation in climate change policies at national level are observed. American Republicans are reluctant to make regulatory climate policies because they are affiliated with industry (Bryner, 2008; McCright & Dunlap, 2003). As a representative example, the United States declared withdrawal from the Paris Agreement, receiving full support from the Republican Party but criticism from the Democrats. Also, climate change issue is not seriously considered by all states. Some vulnerable states to climate change are amenable to climate change policies, but others are not. Because many policies are created and implemented at the state level rather than at the federal level in the United States, national standards for CCA may not be appropriate for some states.

1.2 Overview of the Study

1.2.1 Objective and Research Questions

The objective of this dissertation is to examine determinants of nonprofit contribution to collaborative governance for climate change adaptation and identify roles of nonprofit organizations in the collaborative governance. The research will be guided by the following questions:

- (1) What factors explain nonprofit organizations' contribution to collaborative governance for climate change adaptation?
- (2) What are the roles of nonprofits in collaborative governance for climate change adaptation?

1.2.2 Scope of the Study

To answer the questions, I examine interorganizational collaboration of Korean nonprofit organizations with other entities for climate change adaptation. To address nonprofit contribution to collaboration and roles in collaborative governance in the context of climate change adaptation, nonprofit private organizations (*beyoungri mingan danche*) in South Korea are observed. Nonprofit private organizations, which are legally defined in the *Assistance for Nonprofit, Nongovernmental Organizations Act*, are registered to a central administrative agency or a Metropolitan City/a *Do* (province level) and eligible for the government funding and other administrative supports. Basic information on the nonprofit private organizations is provided from the data set opened to the public by the Ministry of the Interior and Safety (MOIS) of Korea through the *NPO Public Activity Support System*. According to the MOIS, total 14,713 organizations are registered as nonprofit private organizations (*beyoungri mingan danche*), as of 2019.

Among 14,713 nonprofit private organizations, this study considers 1,468 organizations that are primarily involved in the following three service areas that are critical in climate change adaptation: (1) public safety and emergency management: disaster risk assessment, search and rescue, reliefs, rebuilding infrastructure, etc., (2) energy-related: energy saving (recycling) and new/renewable energy development, etc., and (3) natural resource conservation: conservation of species, nature conservation (river, ocean, and forest), etc. (Table 1.1). Category 1 includes

activities of disaster relief, search and rescue, disaster recovery. Korean Red Cross, Korea Disaster Relief Association, Marine Corps Friendship Association are representatively categorized into this category. Category 2 accounts for energy related activities for climate change adaptation, i.e., energy saving through recycling, development of new or renewable energy, etc. The category is exemplified by the nonprofit organizations such as Korea NGO's Energy Network, Korea Resources Recycling Association, and Energy Justice Actions.

Organizations under the category 3 engage in activities to conserve natural resources. The environment organizations like Korea Federation for Environmental Movements and Green Korea dominantly occupy this category. It should be noted that, despite the classification, many organizations are involved in more than one service area, most frequently, conservation of natural resources and energy saving (e.g., Korea Federation for Environmental Movement, Green Korea, Environment Action Association, etc.).

Table 1.1: Scope of Nonprofits in the Study

Service Areas	Examples
<i>Category 1.</i> Public safety and emergency management: disaster risk assessment, search and rescue, reliefs, rebuilding infrastructure, etc.	<ul style="list-style-type: none"> • Korean Red Cross • Korea Disaster Relief Association • Marine Corps Friendship Association
<i>Category 2.</i> Energy-related: energy saving (recycling) and new/renewable energy development, etc.	<ul style="list-style-type: none"> • Korea NGO's Energy Network • Korea Resources Recycling Association • Energy Justice Actions
<i>Category 3.</i> Natural resource conservation: conservation of species, nature conservation (river, ocean, and forest), etc.	<ul style="list-style-type: none"> • Korea Federation for Environmental Movements • Green Korea • Environment Action Association

Relevant hypotheses are tested in the context of climate change adaptation through the ordinary least square regression. To examine nonprofit roles in collaborative governance,

Moulton and Eckerd's (2012) typology is adopted (i.e., service provision, innovation, individual expression, political advocacy, citizen engagement, and social capital creation). Nonprofit roles in collaborative governance are descriptively analyzed, and it is finally identified that Korean nonprofit organizations play four roles of the service provision, innovation, political advocacy, and social capital creation.

1.2.3 Theoretical and Practical Implications

This study has theoretical and practical implications. First, this study contributes to the literature on interorganizational collaboration by considering contribution to collaboration. Despite abundant studies on collaboration among various entities, little research has addressed contribution to collaboration. This study provides insightful knowledge about interorganizational collaboration by considering actual contribution to achieving goals. This study also expands the institutional collective action framework to understanding the nonprofit roles in collaboration. Existing literature using the ICA framework focus on explaining collaboration decision-making. This research sheds light on identifying nonprofit roles in collaboration by making a new attempt to applying the ICA framework to the specific collaboration types (i.e., supplementary, complementary, and adversarial). Practically, categorized determinants of collaboration employed in this research strengthen nonprofit contribution in collaborative governance. Practitioners can make balanced strategies to promote nonprofits to effectively co-work with consideration of encompassing environmental factors (i.e., organizational, government, interorganizational, and community factors).

1.3 Organization of the Study

Following Chapter 1, Chapter 2 provide theoretical frameworks and relevant hypotheses to identify determinants of the nonprofit contribution to collaboration. First, an overview of different theoretical frameworks explaining collaboration is provided, i.e., institutional collective action framework, resource dependence theory, and transaction cost theory. Through the comparison of strengths and weaknesses of the three theoretical frameworks, I suggest the Institutional Collective Action model of nonprofit collaboration. The institutional collective action (ICA) framework explains that nonprofit organizations collaborate with other entities when collaborative benefits (i.e., competitive advantages, service improvement, legitimacy, etc.) are greater than risks (i.e., mission drift, autonomy loss, bureaucratization, etc.). Then, to explain nonprofit contribution to collaboration, eight predictors under four categories are employed: (1) organizational factors (*board size* and *collaborative capacity*), (2) government factors (*government funding* and *red tape*), (3) interorganizational factors (*social relationships* and *social learning*), and (4) community factors (*demographic diversity* and *community support*). Finally, relevant hypotheses are generated.

In the Chapter 3, I review three typologies of nonprofit roles to examine nonprofit roles in collaborative governance. Young (1999) suggests three nonprofit roles (i.e., supplements, complements, and adversaries) based on the relationship with the government. Frumkin (2002) intersects two dimensions of orientation (supply vs. demand) and rationale (expression vs. instrument), and then introduces four roles of service delivery, mobilization of civic and political engagement, social entrepreneurship, and expression of individual faith. Moulton and Eckerd (2012) further develop the work of Frumkin (2002), offering six types of nonprofit roles: service

provision, innovation, individual expression, political advocacy, citizen engagement, and social capital creation. With the comparison of strengths and weaknesses of the three classification, I adopt a typology suggested by Moulton and Eckerd.

Chapter 4 outlines research design with the three parts. In the first part, I explain the research site. South Korea is threatened by various types of hazards such as typhoon, local heavy rain, sea level rise, and temperature rise. These hazards are expected to be more exacerbated due to the climate change (KMA, 2020). Especially, South Korea has a vulnerability to climate change originated from geographic factor, i.e., a peninsula surrounded by the sea on three sides (i.e., east, south, and west) of the country. Also, South Korea is appropriate to the study of collaboration for climate change adaptation in terms of providing a good practice of the nationwide collaborative governance. Next part describes a data collection process. Data is primarily collected through the survey. A data set opened to the public by the Ministry of the Interior and Safety of Korea is used, and survey samples are randomly selected from 1,468 nonprofit organizations which are subject to the service areas of emergency management, energy saving and development, and natural resource conservation (see Table 1.1). Finally, 101 nonprofit organizations participate in the survey (48.1% response rate). The third part describes the measurement of dependent and independent variables including survey instruments.

In the following chapter (Chapter 5), results of statistical analyses are reported and discussed. The chapter is divided into two sections. One section lays out determinants of nonprofit contribution to collaboration for climate change adaptation. Through the ordinary least square regressions, it is found that government funding, existing relationships with others, and revenue tend to increase nonprofit contribution level to collaboration for climate change

adaptation. Interestingly, age of nonprofit organization has a nonlinear relationship with the nonprofit contribution to collaboration. The OLS regression for each component of the dependent variable (i.e., power, joint activities, human resource, funding, and information) provides some notable findings. It is found that nonprofit organizations with large board are less likely to contribute to collaboration in terms of power sharing and information sharing than nonprofits with medium board. Also, collaborative capacity, social learning, demographic diversity, and community support, in part, influence nonprofit contribution to collaboration. In the second section, nonprofit roles in climate change adaptation are identified. In general, the social capital creation role is most frequently played among the Korean nonprofit organizations, but the political advocacy role is least frequently played. The comparison of nonprofit roles by service areas reports that nonprofit organizations engaging in emergency management and natural resource conservation have the same pattern as above. However, as for the nonprofit organizations working for energy saving and development, innovation role occupies the most, and the rest three roles (i.e., social capital creation, service provision, and political advocacy) have almost same portions with each other.

Chapter 6 concludes the dissertation with the summary of the findings. Theoretical and practical implications are also presented. This chapter also discusses the limitations of the study with suggestions for future study.

CHAPTER 2

NONPROFIT CONTRIBUTION TO COLLABORATION FOR CLIMATE CHANGE ADAPTATION

2.1 Overview: Different Theoretical Frameworks Explaining Collaboration

While much has been written about the importance of interorganizational collaboration, few have examined the roles of nonprofits in mitigating risks associated with climate change (e.g., sea level rise). Most of the theoretical development has been devoted to understanding regional governance and collaboration at the watershed level (Scholz & Stiftel, 2010), transportation (LeRoux & Carr, 2007), public safety (Andrew & Hawkins, 2012; Andrew, Short, et al., 2015), and economic development (Agranoff & McGuire, 1999; Lee et al., 2012).

The decision for organizations to contribute to collaboration is not a straightforward process. For example, according to Feiock (2013), organizations often have to deal with coordination, division, and defection problems when deciding whether to participate in regional governance. The problems are particularly acute when an organization has to deal with coordination of tasks among its members, decide on the allocation of costs and benefits from the joint effort, and make a decision whether members of the joint effort have conflicting interests and defect from their commitment to contribute to the efforts of the collective action.

Traditional argument of collective action problem is made by Olson (1965). He asserts that “unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests*” (p.2). That is, individuals with self-interests attempt to take a free ride to gain public goods which are non-excludable. However, the argument has been contradicted by scholars (Elster, 1989; Hardin,

1982; Ostrom, 2000; Udéhn, 1993). Successful collective action can be taken through communication, reputation, and reciprocity rather than coercion.

There are at least three theoretical frameworks explaining interorganizational collaboration: (1) institutional collective action framework, (2) resource dependence theory, and (3) transaction cost theory. To understand motivation and incentives for nonprofit organizations to collaborate with other organizations, an overview on each theoretical framework and discussion about their strengths and weaknesses are provided.

2.1.1 Institutional Collective Action Framework

The institutional collective action (ICA) framework explains collaborative institutions in which various entities establish a partnership with one another to solve the shared problems that otherwise cannot be resolved individually. According to Feiock (2013), ICA dilemmas occur from “the division or partitioning of authority in which decisions by one government in one or more specific functional areas impact other governments and other governmental functions (p.397).”

The ICA framework provides resolving mechanisms of collective action problems based following four elements: (1) types of collective action dilemmas, (2) the authorities in the policy arena, (3) the potential risks of collaborative activities, and (4) the incentives to motivate actors (Feiock, 2013). Application of the ICA framework initially requires that types of dilemmas the actors face be identified. Most common problems generated by fragmentation of political authority include negative externalities, diseconomies of scale of services, and common pool resource problems. Among these, negative externality dilemma is the most challenging case because application of incentive is not appropriate. More specifically, a jurisdiction which

imposes a negative effect on neighboring entities does not have incentive to internalize the externality but does gain benefits from distributing negative externality. In this case, centralized regional authorities covering functional and geographic scope can internalize the problem of externality (Feiock, 2013).

2.1.1.1 Collaboration Risks

The ICA framework manifests potential risks of collaborative works: coordination problems, division problems, and defection problems (Feiock, 2013). Coordination issues arise when the tasks are complex and associated across multiple jurisdictions. For example, if local governments initiate a project associated with multi-jurisdictions, coordination of tasks among actors are necessary for successful collaboration. Risk of incoordination can be mitigated through authoritative mechanisms (Andrew & Kendra, 2012).

Distribution problems refer to unequal or disproportionate allocation of costs and benefits from the joint work among participants. Despite better-off for all actors, if parties disagree with distribution of joint gains or perceive unfairness in bearing expenses, collaboration cannot be effective. Thus, division problems can be alleviated through bargaining and negotiation over the allocation of costs and benefits (Feiock, 2013).

Defection risks emerge when a choice of one party generates worse-off to the other party. While coordination and division problems occur under the shared goals, defection problems are based on conflicting interests among parties. For example, if an actor in collaboration seeks for its own short-term interests, it will generate inefficiency collectively without mechanisms that integrate individual decisions. When there is uncertainty due to lack of information, actors are, in particular, at risk of counterparties' opportunistic behavior (Brown

& Potoski, 2005). Thus, ensuring the credible commitment to the collaboration through authoritative mechanisms is necessary to mitigate the risks (Feiock, 2013). Building trust and reciprocity through communication among parties is also required to overcome defection risks (Ostrom, 1998).

2.1.1.2 Mechanisms for Resolving ICA Dilemmas

With the premise of the institutional collective action dilemmas, the ICA framework provides mechanisms through which participants mitigate collaborative risks of coordination, distribution, and defection. Feiock (2013) provides two different mechanisms to overcome collaboration risks based on transaction costs and expected gains. One is formal mechanisms which primarily rely on authoritative enforcement and contractual agreements. The other is informal mechanisms based on norms and other socially embedded factors. Determination of effective mechanisms depends on nature of dilemma. The stronger enforcement, the higher transaction costs. Collaborations engaging more actors require higher transaction costs.

First, formal mechanism such as multilateral interlocal agreement requires higher transaction costs for monitoring than informal mechanism. However, it is more effective for collaboration with high risks than informal one since the costs increases slowly as risks increase (Feiock, 2013). In contrast, informal mechanism like self-organizing network expects low costs when it has low level of risks. However, transaction costs increase abruptly as risks increase (Feiock, 2013). It reveals that informal collaboration (i.e., informal network) is more effective when risks are low, highlighting significance of credible commitment in self-organizing collaboration.

In practical understanding of interlocal cooperation based on ICA framework, how local

governments' perception of the costs is differentiated is imperative. First, asset specificity and measurement difficulties increase costs because asset specificity makes it difficult to be redeployed to other uses, and measurement problems rarely generate divisible outcome (Brown & Potoski, 2003; Feiock, 2007). Second, demographic heterogeneity among and within local governments and the geographic distance between local governments increase costs due to the difficulty of negotiation for fair distribution of benefits. Third, council-manager form of government and longer tenure of elected officials decrease costs based on professional norm (Feiock, 2007; Hefetz et al., 2014). Fourth, policy networks among the local governments also decrease costs with mutual friendships (Feiock, 2007; Thurmaier & Wood, 2002).

2.1.1.3 Strengths and Weaknesses

The ICA framework has several strengths. First, the ICA framework provides comprehensive explanation on interorganizational collaboration by considering a sociological approach and an economic approach at the same time. A concept of collective action is combined with the transaction cost and the social exchange theories within the framework to elucidate how multiple entities co-work for mutual benefits such as resolution of multi-jurisdictional problems (Feiock, 2014). More specifically, transaction costs of negotiating, monitoring, and enforcement can be reduced by social embeddedness. Theories of social embeddedness inform that network relationships embedded in social, political, and economic structures reduce shirking and consolidate credible commitment (Uzzi, 1997).

Another strength of the ICA framework is its emphasis on the dynamics of decentralized governance systems. The framework reflects forces to cause the evolution of institutional arrangements, allowing possible multiple equilibria (Feiock, 2014). Based on the ICA

framework, trust among parties promotes establishment of collaborative relations by decreasing transaction costs induced in the process of collaboration. For example, at the implementation stage of the cooperation, local governments consider whether the distributions of mutual gains are fair (Kwon & Feiock, 2010), which requires trust among the contracting parties (Feiock, 2007). Mutual trust among counterparties expedites negotiation by solidifying the belief of fair distribution of mutual gains. It is also believed that collaborations among organizations in a trust relationship are less costly in terms of monitoring (LeRoux et al., 2010).

It is also strength of the ICA framework that it offers appropriate collaborative mechanisms for resolving the problems according to the type of collective action dilemmas (Feiock, 2013). Matching between collaborative mechanisms and ICA dilemmas has a theoretical implication since it facilitates empirical tests of hypotheses developed based on the ICA framework. It has a practical implication as well in terms of guiding organizations to establish proper types of collaborative structures.

However, ICA framework has limitations as well. One limitation of the ICA framework is a risk of consistency lack originated from its conceptual foundation. As aforementioned, the framework combines sociological and economic perspectives in explaining collaboration (Feiock, 2014). Despite the comprehensiveness incurred from considering two different approaches at the same time, there is a risk of losing consistency as well. More specifically, from the sociological perspective, interdependency among actors is positively associated with collaboration (Emerson, 1962; Pfeffer & Salancik, 1978). Based on transaction cost theory, increasing mutual dependence incurs endogenous uncertainty associated with opportunism in transaction, increasing transaction costs (Williamson, 1975). Thus, interdependency between

parties has a negative effect on collaboration.

The ICA framework has another limitation that the application of the framework is biased toward providing a local government perspective. As an alternative to Tiebout model, which explains how the level of local expenditure of public goods is determined (Tiebout, 1956), the ICA framework has been used to understand local government collaboration. Most empirical studies on the framework deal with collaboration at the local level (Andrew, Jung, et al., 2015; Feiock, 2009; Hawkins & Andrew, 2010; Kwon & Feiock, 2010; Tavares & Feiock, 2014). Only a few studies apply the ICA framework to other entities than local government such as nonprofits (Jang et al., 2016).

2.1.2 Resource Dependence Theory

Resource dependence theory suggests that interdependence promotes collaboration. Lack of resources leads to voluntary exchange of resources among individual organizations within the interorganizational network (Sullivan & Skelcher, 2017). Levine and White (1961) define organizational exchange as “any voluntary activity between two organizations which has consequences, actual or anticipated, for the realization of their respective goals or objectives (p.588).” Public managers have faced a demand for more resources necessary for better public services and have met the demand by the simple way of trading or sharing the resources which their organizations possess.

The concept of interdependence comes from the premise that no organizations are self-sufficient. Organizations inevitably interact with encompassing environments in order to import resources necessary for their survival. (Pfeffer & Salancik, 1978). According to Emerson (1962), social relationships usually generate “ties of mutual dependence (p.32),” with one party relying

on the resources belonged to the other party in order to achieve its goals. In particular, smaller organizations might be more likely to be involved in formal types of collaboration for the purpose of getting better access to important resources due to greater resource shortage (Guo & Acar, 2005). That is, one party collaborates with the other party because activities of the other party affect its successful achievement of goals. However, interdependency implies that one party also influence the other party's activities to some degree. Accordingly, once established, the partnership is maintained, making their interdependence on resources greater.

2.1.2.1 Strengths and Weaknesses

Resource dependence theory has some advantages. One advantage of the resource dependence theory is that it offers fundamental explanation of collaborative works. Collaboration is defined as “a concept that describes the process of facilitating and operating in multi-organizational arrangements to solve problems that cannot be solved or easily solved by single organization (Agranoff & McGuire, 2003).” As known from the definition of collaboration, a main rationale of joint works is originated from reliance on other organizations.

Another strength of resource dependence theory is that it expands organizational focus to external environments. Shift of organizational focus from the internal distinctions of organizations to encompassing environments is significant because it helps study of organizational collaboration from the macro perspectives. It is also critical in terms of allowing consideration of the external dynamics of interdependency, interaction, and competition among organizations (Shafritz et al., 2015).

Resource dependence theory also has a strength of offering an insight into power relations inherent in the collaborative structure. Based on the resource dependence theory,

resources are a basis of power. Sullivan and Skelcher (2017) state that “power resides implicitly in the other’s dependency (p. 40).” Given that it is difficult, in reality, to keep balance of powers among actors, power imbalance exists in many cases. It implies that strategic management of power distribution among collaborative parties is essential for successful collaboration.

Despite several advantages, the resource dependence theory reveals disadvantages. First, there are few empirical studies of collaboration based on the resource dependence theory. Even though the theory has long been a primary theoretical framework to understand relations between organization and surrounding environments, empirical analyses lack (Drees & Heugens, 2013). Empirical study is important because it is a process of verifying theory by testing hypotheses. In this sense, resource dependence theory fails to provide clear collaboration model.

It is also weakness of resource dependence theory that expected problems in the process of collaboration are not identified. In other words, resource dependence theory does not look at pay-off in outcomes. Given that power resides in dependency (Sullivan & Skelcher, 2017), one party is more likely to attempt to control over the other party as power imbalance generated by rise of dependency greatly increases. This implies increasing dependency hinders successful collaboration.

2.1.3 Transaction Cost Theory

Transaction cost theory originally has been used to explain collaboration as an activity of buying, selling, or exchanging goods and services among parties, which is determined based on benefits and costs of the transactional activity. Transactions occur to manage the imperfection of organizational structure (Coase, 1937; Williamson, 1975, 1985). More specifically, economic

agents make an investment in resources necessary to reduce the impacts of imperfection in transaction. Such investments are transaction costs (Cordella, 2009). If relevant information necessary to decision-making is perfectly and efficiently informed among the structures, transaction costs approach zero. In contrast, costs increase if the imperfection of decision-making structures increases.

In this sense, collaboration is generated to reduce costs necessary for production and provision of goods and services. If in-house production of goods and services costs greater than co-production of goods/services with others or contracting goods/services out, individuals prefer the latter to the former. It has been broadly applied to account for various phenomena from economic to political collaborative works.

Costs are generated in each stage of transaction: search, negotiation, and enforcement stages. In the stage of search, costs are generated in finding information on exchange. For example, from the supplier side, costs are necessary for marketing; and from the user side, costs of search for items (i.e., goods and services) are involved. In the negotiation stage, both parties need costs in predicting risks of the transaction and preventing or minimizing such risks. In the stage of control, costs are involved in monitoring and enforcing the contract (Cordella, 2009; Kwon & Feiock, 2010; Nooteboom, 1992).

Most transaction costs are generated only when the transaction is associated with specificity of assets (Williamson, 1975). Investment for specific assets can be lost if the transaction is not continued. Whereas such a risk causes loss to one party because it results from unpredictable contingencies for the future (*bounded rationality*), unpredictable contingencies might be advantageous to the other party (*opportunism*). If there is no specificity

of assets in transaction, one can trade with another partner without loss even in case of opportunism. However, if opportunism happens with regards to specific assets, a loss related to the assets is inevitable. Opportunism occurs on the occasion of contingencies which cannot be foreseen at the time that a transaction agreement is made. Thus, such uncertainty about opportunism increases transaction costs (Nooteboom, 1992).

Transaction cost theory offers a contradicting idea regarding interdependence and collaboration. Once transactions take place, information can be collected and managed with relatively low transaction costs under the price mechanism due to the reduced uncertainty. However, if resource dependency between trade parties increases, the transaction is associated with endogenous uncertainty related to opportunism over time, followed by increase of transaction costs. In such a situation, the *hierarchy* (in-house production) based on predefined norms and regulations, as an alternative mechanism, is more efficient to manage such uncertainty than market system (Coase, 1937; Williamson, 1975). Thus, there is a possibility that mutual dependence among parties might hinder collaboration due to growing transaction costs.

2.1.3.1 Strengths and Weaknesses

Transaction cost theory has its advantages. First, transaction cost theory as an economic approach provides a parsimonious mechanism of decision-making for collaborative works. It reflects costs incurred through each process of an exchange systematically (i.e., searching for counter parties, negotiating, and monitoring). In specific, if benefits of joint works are expected to be greater than costs, a decision of collaboration is made.

TCT also provides a theoretical explanation of why institutional arrangements for

collaborative governance change continuously. According to the design school of institutionalism, rational actors create and change institutions to minimize transaction costs by reducing uncertainty and to maximize their interests (Williamson 1985). Institutions, which are governance structures, are evolved over time because individuals with bounded rationality cannot create perfect rules that specify all possible outcomes and costs of the social exchange relationships at a time. When the rational actors discover better governance structures for their self-interests than the existing institutions, the actors change the governance structure to the more favorable one.

As another strength, the use of transaction cost theory in public sectors contributes to expansion of economic concept into political area, highlighting rationale of political collaboration between political principals (i.e., President and Congress) and agent (i.e., bureaucracy). For example, when considering legislation, Congress has two options. One is that Congress makes legislation directly, which requires costs for obtaining necessary information. The other is that Congress collaborates with the bureaucracy by delegating legislating power to the bureaucracy, which requires costs for monitoring. If the cost of internal legislation in the committee system is greater than the cost of external delegation to the bureaucracy, Congress delegates power to the bureaucracy (Epstein & O'halloran, 1999).

Despite its broad application, transaction cost theory has limitations in explaining collaboration. One limitation of the transaction cost theory is that it does not consider contribution of social relationships in economic transaction. Even though Williamson (1973) denotes that economic actors sometimes forgo maximizing their benefits due to atmospheric reasons such as values, transaction cost theory fails to provide insightful thoughts beyond it.

According to Simpson and Willer (2015), collaboration is created and maintained by social mechanisms such as reputations, rules, and social relationships. For example, close friends make a transaction even with high asset-specificity because they trust mutually (Barney & Hesterly, 2002).

The other limitation of the transaction cost theory is originated from the basic assumptions. Transaction cost theory assumes that production costs are constant across structures of governance or transaction modes. But production costs vary according to technologies, learning, and individual capacities (Foss & Klein, 2010; Hodgson, 2010). It has been argued that firms exist because the production of goods in hierarchy costs less than market transactions (Coase, 1937). However, the assertion overlooks an important possibility that the firm exists even when in-house production is costlier than exchange in market. The rationale of the firm can be found in providing an organizational environment enhancing the capabilities of members (Hodgson, 2010) rather than cost minimizing.

Emphasis on economizing as an imperative of organizations (Barney & Hesterly, 2002) makes transaction cost theory have a limitation in explaining collaboration in public sector. While transactions in private sector are made based on economic calculation, transactions in public sector are conducted based on various values like publicness, democratic accountability, and social equity rather than economic values. For example, under the New Public Administration perspective, social equity is prioritized to economic efficiency. It implies that a governmental transaction cannot be solely accounted for by economizing.

2.1.4 Summary of Three Theoretical Frameworks

Three theoretical frameworks explaining collaboration are presented: institutional

collective action framework, resource dependence theory, and transaction cost theory. The institutional collective action (ICA) framework provides resolving mechanisms of collective action problems considering types of collective action dilemmas, political authorities, potential risks of collaboration and the incentives to motivate actors (Feiock, 2013). Risks of collaboration includes incoordination risks, distribution risks, and defection risks. According to the ICA framework, collaboration occurs when benefits induced by collaboration are greater than risks.

Resource dependence theory suggests that actors collaborate because they do not have sufficient resources to solve the problems. Interdependence resulted from the lack of resources leads organizations to voluntarily engage in collaborative works. Organizations are not self-sufficient. Thus, they inevitably collaborate with others to survive.

Table 2.1: Strengths and Weaknesses of Theoretical Frameworks

Strengths	Weaknesses	NPOs' Motivation
Institutional Collective Action Framework		
Providing a comprehensive explanation on interorganizational collaboration by combining sociological and economic approaches	A risk of consistency lack originated from its conceptual foundation	<ul style="list-style-type: none">• Service improvement• Competitiveness• Legitimacy• Organizational capacity• Trustworthiness
Emphasis on the dynamics of decentralized governance systems	Application of the framework is biased toward explaining local government collaboration	
Matching collaborative mechanisms to the type of collective action dilemmas		
Resource Dependence Theory		
Offering fundamental explanation of collaboration	Few empirical studies of collaboration	<ul style="list-style-type: none">• Funding• Expertise• Technical assistance
Expanding organizational focus to external environment	Veiled expected problems in the process of collaboration	

(table continues)

Strengths	Weaknesses	NPOs' Motivation
Providing an insight into power relations inherent in collaborative structure		
Transaction Cost Theory		
Providing a parsimonious mechanism of decision-making for collaboration	Ignorance of power of social mechanisms such as reputation, rules, and social relationships	<ul style="list-style-type: none"> • Service improvement • Cost savings
Offering a theoretical explanation of institutional arrangement for collaborative governance	Limitations of basic assumptions related to values of the firm	
Contribution to expansion of economic approach into political area	Limited explanation of transactions in public sector	

Transaction cost theory explains collaboration as a transaction in market. Thus, if benefits of the exchange are greater than costs, the transaction occurs. In contrast, if costs of transaction are greater than benefits, in-house production occurs. Based on the transaction cost theory, collaboration is created to reduce costs due to uncertainty. However, this offers conflicting explanation with the resource dependence theory. While resource dependence theory suggests that uncertainty increases collaboration, transaction cost theory explains uncertainty impedes collaboration. Table 2.1 presents strengths and weaknesses of three theoretical frameworks.

2.2 Why Nonprofits Contribute to Collaboration? Institutional Collective Action Framework

2.2.1 Interorganizational Collaboration

Interorganizational collaboration is defined as “a concept that describes the process of facilitating and operating in multi-organizational arrangements to solve problems that cannot be solved or easily solved by single organization. Collaborative means to co-labor, to achieve

common goals, often working across boundaries and in multi-sector and multi-actor relationships. Collaboration is based on the value of reciprocity and can include the public (Agranoff & McGuire, 2003).” Likewise, Sink (1998) provides the definition of interorganizational collaboration as “process by which organizations with a stake in a problem seek a mutually determined solution [by pursuing] objectives they could not achieve working alone (p.1188).” Other scholars (Bryson et al., 2006) similarly but differently provide concept of cross-sector collaboration, i.e., “the linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by organizations in one sector separately (p.44).” Despite the various conceptual definitions of collaboration, they have a common reference to why organizations work together. Two or more organizations, whether they are within the same sector or different sectors, work together to achieve the mutual goal of solving problems that one organization cannot solve alone.

Why an organization collaborates with others has long been a concern of scholars. However, in a majority of empirical studies, collaboration has been considered as a dichotomous concept (i.e., being in collaborative relationship with other parties or not being) (Jang et al., 2016; Kwon & Feiock, 2010; LeRoux et al., 2010; LeRoux & Carr, 2007). Little attention has been paid to how much contribute to the collaboration. Implications of those studies might be limited given that entering into collaboration does not necessarily mean actually doing things necessary to achieve shared goals successfully. To fill the gap, this study considers organizations’ *contribution in collaboration*.

To consider contribution to collaboration, I adopt the definition made by Bryson et al.

(2006). This definition effectively captures the concept of collaboration with consideration of multiple dimensions of collaboration. Collaboration occurs as an intermediate step in a continuum of organizational sharing. At one extreme organizations share nothing each other, but at the other extreme organizations are integrated into a new entity (Crosby & Bryson, 2005) (Figure 2.1).

Figure 2.1: Continuum of Organizational Sharing

What is Shared	Mechanism for Sharing		
Authority			Merger
Power			
Activities & resources			
Information	Communication	Coordination	Collaboration
Nothing	None		

Source: Crosby and Bryson (2005, p.19)

With a notable exception (Jang et al., 2016), the Institutional Collective Action (ICA) framework has been primarily applied to explanation of mechanism through which local governments overcome collective action problems (Andrew, Jung, et al., 2015; Feiock, 2009; Hawkins & Andrew, 2010; Kwon & Feiock, 2010; Tavares & Feiock, 2014). In understanding why nonprofit organizations contribute to collaboration, it is important to identify their benefits and risks through joint works with other organizations. This research will fill the lacuna by employing the ICA framework to understand contribution of nonprofits to collaboration for climate change adaptation.

It has been argued that, based on the ICA framework, a participation to interorganizational collaboration generates not only benefits but also costs (Andrew, Jung, et

al., 2015; Feiock, 2009, 2013; Jang et al., 2016; Kwon & Feiock, 2010). According to Jang et al. (2016), nonprofits gain benefits such as service improvement, higher efficiency, strengthened capacity, and legitimacy from the participation to collaboration. In contrast, nonprofits face risks like autonomy loss, mission drift, and legitimacy damage. Given that nonprofits gain both benefits and risks through participation to climate change adaptation, the ICA framework is contributable to explaining nonprofits' contribution to collaboration for climate change adaptation.

2.2.2 Institutional Collective Action Dilemmas

The costs of collaboration are borne by individual parties while the benefits of collaboration can be gained collectively. First, nonprofits in partnership with other parties may experience autonomy loss. Loss of autonomy is risky in terms of generating mission drift of organizations. Moreover, it could create "a cultural conflict--a more subtle internal resistance between seemingly similar organizations (Jang et al., 2016, p.171)." Nonprofits often engage in joint works to improve autonomy in fostering service innovation. However, nonprofit organizations' attempts to achieve greater autonomy are prevented since the pursuits can be at odds with governmental demands for accountability (Feiock & Andrew, 2006; Gazley & Brudney, 2007).

Collaboration can be understood as forming connections among collaborators, that is, a part of a shared decision-making process (Acosta et al., 2011). However, governments tend not to involve nonprofits in decision-making process. In the study of government-nonprofit partnership in local service delivery, Gazley (2008) identifies that decision-making authority in the partnership of local government with nonprofits is mainly reserved by government sector

across various service areas, arguing that exclusion of one party in decision-making is not authentic collaboration. In particular, imbalanced power to decide has a manifestation in the area of public safety and emergency response.

Discrepancy in power among stakeholders often prevents nonprofits from influencing policies. While collaborative governance seeks for horizontal collaboration, pre-existing power relations tend to persist in participatory collaboration (Few et al., 2007). Nonprofits serving privileged population are more likely to impact on policy decision-making with sufficient resources provided by target customers. However, nonprofit organizations that serve low socioeconomic class are not expected to gain resources from the target population. Given that most affected groups by climate change are marginalized people, low-powered nonprofits have difficulties influencing policymaking without government supports.

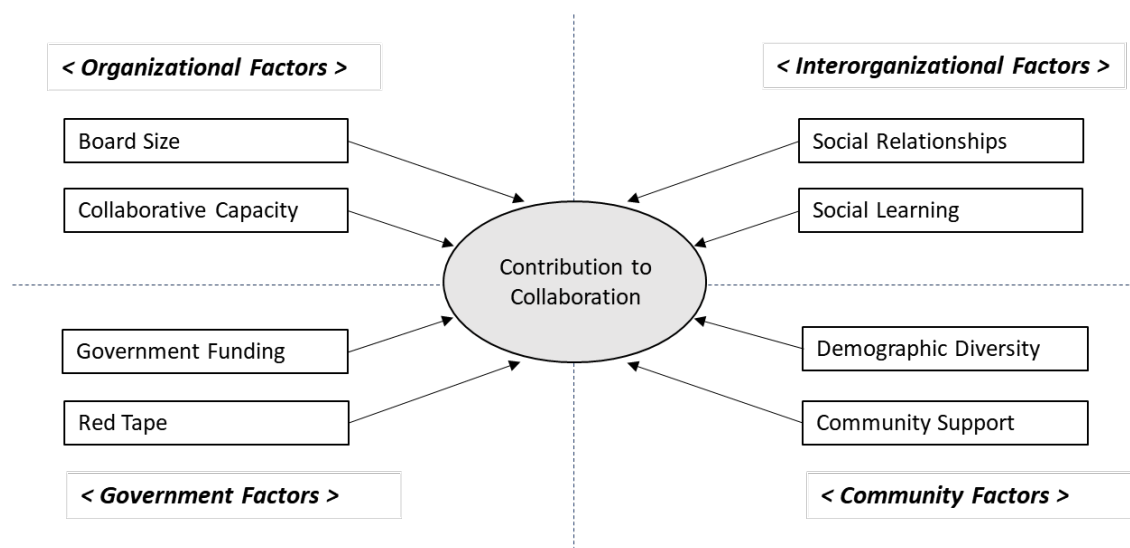
A recent observation of volunteerism types that have been paid attention by scholars in the emergency management field (Strandh & Eklund, 2018) poses another element impeding nonprofits' participation in collaboration. Emergent volunteer groups, which have increased since the 1990s, can be operated shortly after disaster/emergency occurrence. They are less likely to be constrained by pre-existing rules and strategies than formally organized volunteer groups due to their improvisation (Whittaker et al., 2015). Despite unaffiliated volunteers' advantages in emergency management, lack of training and limited experiences of co-works with emergency management agencies pose potential risks of disrupting organized responding and jeopardizing others and their own lives (Whittaker et al., 2015).

2.3 Determinants of Nonprofit Contribution to Collaboration

Organizational collaboration is influenced by both internal conditions of the

organization and external environments. Factors connecting the organization and the outside world also influence the collaboration. To explain nonprofit contribution to collaboration, I employ eight predictors under four categories: (1) organizational factors (*board size* and *collaborative capacity*), (2) government factors (*government funding* and *red tape*), (3) interorganizational factors (*social relationships* and *social learning*), and (4) community factors (*demographic diversity* and *community support*). Figure 2.2 presents a theoretical framework to examine what motivates nonprofit organizations to contribute to collaboration. Then, the effects of the eight factors are predicted and hypothesized as follows.

Figure 2.2: Theoretical Framework



2.3.1 Organizational Factors

2.3.1.1 Board Size

As a key governing body of nonprofit organizations, board of directors/trustees (or its equivalents) makes a wide range of decisions including organizational mission and goals, resource mobilization, programs and services, and other day-to-day activities. For nonprofit organizations, among the various roles of the board, obtaining resources through interactions

with other organizations is critical to the survival of the organization (Pfeffer & Salancik, 1978). For the nonprofit that performs a wide range of tasks, a large size of board allows members to engage in specialized tasks (O'Regan & Oster, 2005), and thus increasing possibility of association with diverse entities with specific knowledge and information. More importantly, individual board members create opportunities for organizational collaboration through individual ties with other organizations (Ihm & Shumate, 2019).

According to Guo and Acar (2005), nonprofits are more likely to establish formal collaboration when their board members have more linkages with other nonprofits. Board members play a significant role in determining collaboration by providing information about potential partners based on their social relationships. That is, they develop personal affiliations into organizational collaboration (Ihm & Shumate, 2019). The board size of an organization does not necessarily have a direct linkage with the total number of social connections individual members have. However, it is possible that an organization with larger number of board members has more social connections with external entities, based on personal affiliations of members, than an organization with the smaller board.

However, relationship between board size and collaboration is complex. It is also argued that board size is negatively associated with nonprofit collaboration. Board should ensure organization's responsiveness to service demands with provision of services consistent with the organization's mission. Nonprofits with large number of board members potentially have higher possibility of conflict interest than nonprofits with small number of board members, and thus making collaboration decisions difficult. Because decisions in nonprofit organizations are made based on value preferences, personal or professional interests of board members might conflict

with each other whenever an individual nonprofit organization represents multiple constituencies (i.e., clients, donors, governments, paid and unpaid staffs, etc.) (Anheier, 2014). Supporting this perspective, Aggarwal et al. (2012) point out that nonprofits with large board are likely to bear managerial costs due to disagreement among board members.

As a comprehensive perspective of previous two conflicting arguments, it is expected that the medium-sized board is ideal for internal consensus among members in decision-making and for the connection with external resources. Thus, I hypothesize that nonprofits with medium-sized board are more contributable to collaboration than nonprofits with small or large board.

2.3.1.2 Collaborative Capacity

Conventional wisdom suggests that nonprofit organizations seek for working together other organizations when they experience resource insufficiency (Guo & Acar, 2005; Pfeffer & Salancik, 1978; Sullivan & Skelcher, 2017). Nonprofit organizations enter into partnership to gain resources which they need to achieve missions but do not possess sufficiently. Simply, a majority of organizations expect financial improvement through collaboration. However, a study on purpose of government-nonprofit partnership (Gazley & Brudney, 2007) suggests that it is not always the case (especially, in terms of human resources). For the survey question about what hinders nonprofits from collaborating, nonprofits present more agreement than disagreement about shortage of the staffs or time to manage the collaborative relationship. It is because nonprofit organizations with low collaborative capacity bear higher potential costs for collaboration such as mission drift and autonomy loss (Guo & Acar, 2005). Thus, I expect that when nonprofit organizations are not confident with their collaborative capacity, they are

reluctant to contribute to collaboration.

HYPOTHESIS 1a: Nonprofits with small size of board (or its equivalent) are less likely to contribute to collaborative governance than nonprofits with medium size of board.

HYPOTHESIS 1b: Nonprofits with large size of board (or its equivalent) are less likely to contribute to collaborative governance than nonprofits with medium size of board.

HYPOTHESIS 2: Collaborative capacity is positively associated with the nonprofit contribution to collaborative governance.

2.3.2 Government Factors

2.3.2.1 Government Funding

Funding from governments is one of the most effective motivations that drive nonprofits to collaborate with governments. Nonprofits are often involved in formal collaboration by hierarchical authority or requirement for granting of public agencies. When considering collaborative works between governments and nonprofit organizations, nonprofits desire funding from governments while governments expect expertise of nonprofits (Gazley & Brudney, 2007). According to Feiock and Andrew (2006), one type of collaborative relationships between nonprofits and governments in public service delivery can be defined as subsidiary beneficiary and provider. Governments provide nonprofits with grants, subsidies, resources as a trade for their contribution to public service delivery.

Since the 1980s, nonprofit organizations have tried to diversify the sources of funding, especially with the growing reliance on commercial incomes. For example, service areas like health care, arts and culture, and childcare have successfully increased their revenues by charging fees for the services (De Vita, 1999). But this strategy is not viable for all service areas. In some areas of nonprofit services, governments are still a primary funding base of nonprofits.

In particular, the trend has a manifestation in the emergency services (i.e., disaster relief, response, and recovery). Also, given that a multitude of services provided by nonprofits are for the marginalized and disadvantaged groups, charging fees from the service customers is unrealistic (De Vita, 1999).

However, there have been controversies on influence of nonprofit revenue on collaboration. In an empirical study of the relationship between nonprofit participation in collaboration and public funding (Jang & Feiock, 2007), the impact of government funding on interorganizational collaboration is not statistically significant. Nevertheless, authors argue that the possibility of the tested influence should not be dismissed without further separate examinations of relationships between grant versus contract revenues and collaboration. Nonprofits with declining revenue have more difficulties reducing collaboration costs than financially stable nonprofits, given that financial stability can increase the possible payoffs of collaboration, diminishing partner's benefits of the collaboration (Jang et al., 2016).

Funding from governments has more importance for some nonprofit service areas than for others. Jenkins et al. (2015), for example, emphasizes the importance of governmental grants to nonprofits by presenting "policy makers need to factor in funding for nonprofits to provide critical emergency response and recovery services (p.1272)." Nonprofit organizations point out the lack of federal financial supports is one of the major impediments to their engagement in disaster response and recovery (Acosta et al., 2011). Relevant problems include that nonprofits' difficulties in operating large amounts of liquid assets and complicated reimbursement procedures between states and federal governments. A case study of disaster recovery in Alaska (Eller et al., 2017) demonstrates that governmental supports for general

expenses is critical to a successful government-nonprofit collaboration.

2.3.2.2 Red Tape

Red tape, which is commonly defined as constraint resulted from regulations, rules, and procedures (Baldwin, 1990; Rainey et al., 1995; Scott & Pandey, 2000), is considered as a barrier to nonprofit collaboration with government (Gazley & Brudney, 2007). Understanding of red tape can be through examining administrative delay (Kaufmann et al., 2019). Administrative delay captures time required to perform key tasks of organizations such as hiring/dismissing personnel, buying office supplies, and contracting services (Bozeman et al., 1992; Bretschneider, 1990). One critical motivation of collaborative relationship is to increase organizational efficiency by reducing time and energy necessary to organizational negotiation (Williamson, 1985).

However, delays in completing tasks due to excessive emphasis on rules and other administrative procedures increase transaction costs (i.e., demanding time and energy) and thus offset or even exceed the potential benefits of collaboration (i.e., efficiency). Along with efficiency, nonprofit collaboration is motivated by competitive advantage (Gazley & Brudney, 2007; Sowa, 2009). However, red tape is noted to influence negatively on organizational performance (Pandey & Moynihan, 2006; Walker & Brewer, 2009). It is contradicting to the effect that nonprofits expect from the collaborative relationship with other organizations. Thus, it is expected that nonprofits' perception of red tape hinders nonprofit collaboration.

HYPOTHESIS 3: Government funding is positively associated with the nonprofit contribution to collaborative governance.

HYPOTHESIS 4: The perception of bureaucratic regulations and procedures is negatively associated with the nonprofit contribution to collaborative governance.

2.3.3 Interorganizational Factors

2.3.3.1 Social Relationships

Existing social relations promote nonprofits to collaborate with others by decreasing transaction costs induced in the process of collaboration. More specifically, pre-existing social relationships facilitate coordination among parties, lowering coordination costs. At the implementation stage of the cooperation, participants consider whether the distributions of mutual gains are fair (Kwon & Feiock, 2010), which requires trust among the contracting parties (Feiock, 2007). Mutual trust built based on routine interaction expedites negotiation by solidifying the belief of fair distribution of mutual gains. It is also believed that collaborations among organizations in a trust relationship are less costly in terms of monitoring (LeRoux et al., 2010).

It has been argued that mutual trust among actors based on social embeddedness promotes collaborative governance. Interorganizational relationships are embedded on existing structures. Networks formulated within the structures contribute to reduce shirking, and thus promoting credible commitment (Feiock, 2013; Uzzi, 1997). Ostrom (2010) is also aligned with this by arguing that trust building through interaction and communication among parties has more influence on resolving collective action dilemmas than external forces.

In particular, from the nonprofit perspective, social relationships have a great significance in collaboration. According to Gazley (2008), trusting relationships should substitute for formal contractual arrangements since most public-nonprofit partnerships are informally established. Especially, in the emergency context, antecedent conditions such as pre-disaster relationships encourage nonprofits' contribution to collaboration by providing initial

trust (Nolte & Boenigk, 2011). A study of tornadoes in Oklahoma in 2013 (Murphy & Pudlo, 2017) suggests that nonprofits with disaster response-related missions can bridge nonprofits whose missions are not disaster responses and emergency management agencies. It implies that existing networks promote nonprofits' participation in collaborative governance.

2.3.3.2 Social Learning

Social learning through connectedness among various organizations is another factor explaining interorganizational collaboration in the context of climate change adaptation.

Despite global consensus on global warming, uncertainty of climate change impact on the world such as sea level rise and necessity of responding are still on debate (Malone, 2009). Sharing of knowledge and experiences helps individual organizations understand complexities of climate change. For example, organizations can learn from other entities' decisions associated with climate change. Peer support and peer pressure function in an affirmative way of encouraging mutual commitment to the collaboration (Vella et al., 2016).

Nonprofit organizations are motivated to collaborate with other parties by desire for organizational legitimacy. Social learning opportunities offered by collaborative governance contribute to legitimacy of nonprofits through mitigating environmental uncertainty around them. Local nonprofits are expected to contribute to strengthening community resiliency. Inexperienced organizations under the social and cultural pressure tend to imitate leading organizations' practices in the same field to overcome lack of professionalism (DiMaggio & Powell, 1991). Nonprofits may legitimize themselves to external stakeholders (i.e., donors, customers, etc.) by following practices implemented by the leading organizations within collaborative governance. Furthermore, mutual understanding fostered through the process of

social learning contributes to internal legitimacy among parties of collaboration (Bryson et al., 2015).

In context of emergency management for adapting to the climate change, social learning of nonprofits has a particular significance in entering into collaboration. Many nonprofits perform routine tasks in non-emergency situations and shift their works from pre-disaster to post-disaster mode to meet emergent needs in crisis when a disaster occurs. For example, disaster relief such as shelter and food are primarily provided by nonprofits under the service areas of human services or philanthropy. Simo and Bies (2007) argue that, in disaster response and recovery, sharing of information, resource, and expertise is critical for collaboration, and it is particularly evident in nonprofit sector.

HYPOTHESIS 5: Nonprofit organizations' pre-existing relationships with other organizations are positively associated with the contribution to collaborative governance.

HYPOTHESIS 6: Nonprofit organizations' experiences of social learning are positively associated with the contribution to collaborative governance.

2.3.4 Community Factors

2.3.4.1 Demographic Diversity

Characteristics of community form preferences for public services (Feiock, 2007). Demographic diversity within a community suggests divergence of preferences among residents. Homogeneous composition of citizens within a locality has a significance in making collaboration decisions because it influences the aggregation of preferences within the community (Feiock, 2007, 2013). In contrast, demographic heterogeneity within local areas increase negotiation costs due to the difficulty of fair representation of diffused community

preferences (LeRoux & Carr, 2007). The logic has an identical implication for nonprofits given that residents are potential clients of nonprofits. Diverse interests of community members make nonprofits as agents difficult to hold accountability in communities (Feiock, 2007). Nonprofit organizations encounter more challenges when they consider collaboration on behalf of clients since it is costlier to aggregate preferences of heterogeneous clients than homogeneous clients.

2.3.4.2 Community Support

Despite general consensus on importance of climate change adaptation, all programs for adaptation are not necessarily advocated by community. Discrepancy exists between objectives prioritized within community and actual activities required to achieve the objectives (Feiock et al., 2017). It can be exemplified by land use policy for climate change. One group may prefer high-density land use to reduce greenhouse gas emission caused by long-distance travels. The other group may prefer open space policy, i.e., low-density land use, for natural function (e.g., natural infiltration of water) instead of artificial management (e.g., piping) (Hamin & Gurran, 2009). It is expected that the level of community support influences nonprofits' contribution to collaboration given that when nonprofits work together with other organizations to take activities highly supported in community, they achieve legitimacy and accountability easily.

HYPOTHESIS 7: Demographic diversity within community is negatively associated with the nonprofit contribution to collaborative governance.

HYPOTHESIS 8: Community support is positively associated with the nonprofit contribution to collaborative governance.

Table 2.2 summarizes the hypotheses developed in this chapter. I hypothesize that nonprofit organizations with medium-sized board are more likely to contribute to collaboration than nonprofits with small or large board. It is predicted that red tape and demographic diversity negatively influence nonprofit contribution to collaboration. Rest of the factors (i.e., collaborative capacity, social relationships, social learning, government funding, and community support) are hypothesized to be positively associated with contribution to collaboration.

Table 2.2: Predictors of Nonprofit Contribution to Collaboration and Hypotheses

Predictors (Influences)		Hypotheses
Organizational factors	Board size	Nonprofits with small size of board (or its equivalent) are less likely to contribute to collaborative governance than nonprofits with medium size of board.
		Nonprofits with large size of board (or its equivalent) are less likely to contribute to collaborative governance than nonprofits with medium size of board.
	Collaborative capacity (+)	Collaborative capacity is positively associated with the nonprofit contribution to collaborative governance.
Government factors	Government funding (+)	Government funding is positively associated with the nonprofit contribution to collaborative governance.
	Red tape (–)	The perception of bureaucratic regulations and procedures is negatively associated with the nonprofit contribution to collaborative governance.
Interorganizational factors	Social relationship (+)	Nonprofit organizations’ pre-existing relationships with other organizations are positively associated with the contribution to collaborative governance.
	Social learning (+)	Nonprofit organizations’ experiences of social learning are positively associated with the contribution to collaborative governance.
Community factors	Demographic diversity (–)	Demographic diversity within community is negatively associated with the nonprofit contribution to collaborative governance.
	Community support (+)	Community support is positively associated with the nonprofit contribution to collaborative governance.

CHAPTER 3

NONPROFIT ROLES IN CLIMATE CHANGE ADAPTATION

3.1 Why the Nonprofit Roles Are Important in Collaborative Governance for Climate Change Adaptation?

To address nonprofit roles in climate change adaptation collaboration, it is essential to ponder why nonprofit activities are important to climate change adaptation based on understanding of the fundamental characteristics of climate change. Values of nonprofit roles in collaborative governance for climate change adaptation can be placed in terms of awareness, advocacy, and charity.

First, nonprofit organizations are important actors in collaborative governance for climate change adaptation as it is essential to raise awareness of the problem and disseminate relevant information for the success of climate change adaptation (Bies et al., 2013). Climate change is a long-term alteration of temperature and weather patterns. For example, disaster hazards caused by climate change, i.e., representatively sea level rise, are barely recognized by individuals within short period. Thus, the delivery of knowledge about climate change in an easy-to-understand language based on scientific data contributes to the individual perception of climate change as a social problem. For example, the Union of Concerned Scientists (UCS) publishes regional reports on the impacts of climate change to help citizens and politicians understand the expected impacts of climate change and be aware of the risks (Hall & Taplin, 2010). Nonprofit organizations influence attitudes and behavior of the group members by delivering a variety of messages to them through a variety of communication channels. Furthermore, nonprofit organizations, based on public trust and credibility, can have a great influence on the climate change behavior of not only their members but also non-members

(Bies et al., 2013). The nonprofit sector has the ability to induce the public to make their lifestyle changes in the direction of reducing greenhouse gas emissions through events such as campaigns and education.

Second, nonprofits involvement in climate change adaptation is significant in terms of advocacy given that the climate change issue is a collective action problem. Insofar as climate change adaptation cannot be achieved by relying on individual voluntary behavior changes, institutional arrangements (e.g., norm, policy, legislation, etc.) are needed to coordinate individual behavior. Community-based nonprofit organizations are vital in terms of inducing whole community to work together, and thus developing community resiliency. For example, grass-root organizations help the whole community be aware of local vulnerability to climate change through training of the community members for recovery from disasters. The public awareness of risks contributes to citizen engagement and, in turn, leads to political decision to collaborate with other jurisdictions (Andrew, Jung, et al., 2015).

Nonprofit organizations have actively and effectively put pressure on the development of climate change adaptation policies in a variety of ways such as lobbying and campaigning. Representatively, environmental nonprofits in California had great influence on climate policies in the state during the terms of Schwarzenegger as Governor. As an example, Bluewater Networks initially drafted AB 1493, the first regulatory legislation for greenhouse gas emission of passenger vehicles, and finally made the bill passed through the coalition with other environmental groups. Similarly, Vote Solar worked with governments and utilities to make legislation that innovates solar energy policy in California. The policy aims to reduce reliance on fossil fuel and nuclear power by incentivizing the installation of solar energy production

facilities on the roofs of newly built homes (Hall & Taplin, 2010).

Furthermore, nonprofit advocacy is effective even when the government is lukewarm in climate change adaptation policy. Climate policies of local governments are greatly influenced by elected officials' willingness. Without political benefits such as credit claiming through anticipatory outcomes (Yi et al., 2017) or branding benefits (Prakash & Potoski, 2007), political leaders are not expected to call for participation in collective action for climate change adaptation. Because climate change adaptation generates long-term outcomes rather than immediate outcomes (Few et al., 2007), local actors is less likely to engage in collective action for climate change adaptation. However, mission-focused nonprofit attributes, not their own interests, combat political apathy and contribute to the development of climate change policies.

Third, nonprofit role in climate change adaptation has another importance in terms of charity when considering that the impacts of climate change are unevenly distributed by groups, communities, or countries. In specific, negative impacts of climate change on people are more pronounced and influential to the disadvantaged than the advantaged. It is because advantaged people are capable of mobilizing resources necessary for minimizing the impacts, but disadvantaged people are not. With an emphasis on demand-side orientation of nonprofits' action, it is argued that support for vulnerable populations to climate change (i.e., marginalized groups, low-income class, minorities, etc.) is one of the most fundamental responsibilities assigned to nonprofit organizations (Frumkin, 2002). A majority of nonprofits (67.9% as of 2012) in the United States are classified as charitable organization, i.e., 501(c)(3)s, based on the Internal Revenue Code. Despite their provision of services which do not specifically target the

needy, nonprofits are primarily identified as organizations that help underprivileged people (Collins, 2011).

From the supply-side perspective, too, nonprofit sector is effective in helping those who have been negatively affected by or at risk from climate change. Nonprofit organizations are the channel through which actors voluntarily provide human and financial resources necessary to help vulnerable groups (Frumkin, 2002). In conjunction with advocacy events like campaigns, nonprofit organizations can attract advocates' attention to the social cause of climate change adaptation, which can lead to successful fundraising and volunteer recruitment. Through the nonprofit mechanism, the raised funds are distributed efficiently to the neediest, and the workforce is systematically allocated to charitable activities. A case study on the 2009 flooding in Alaska (Eller et al., 2017) shows service delivery of nonprofits in disaster recovery process. Multiple nonprofits from 48 states (e.g., Mennonite Disaster Service, Christian Reformed World Relief Committee, Samaritan's Purse, Salvation Army Disaster Service, etc.) voluntarily provide construction labor. Furthermore, voluntary participation of faith-based organizations generates effects beyond effective housing reconstruction. Interaction between affected individuals and volunteers through various community activities (e.g., meal sharing and campfire gatherings) plays a critical role as a successful disaster coping mechanism, highlighting values of nonprofit role in collaborative governance.

3.2 Theoretical Frameworks Explaining Nonprofit Roles

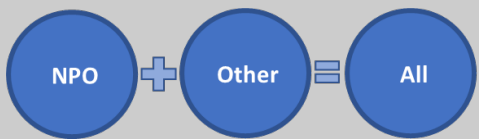

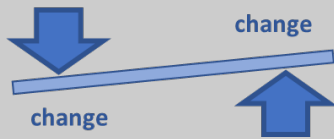
Despite importance of nonprofit roles in collaboration for climate change adaptation, few empirical studies have conducted. Empirical observation of nonprofit roles in collaboration provides an evidence of what nonprofit organizations do to achieve goals within their

relationships with other organizations and the public. For the empirical study on nonprofit roles, it is important to understand the theoretical frameworks that explain the nonprofit roles. Representatively, following three studies provide different perspectives on the nonprofit roles: (1) nonprofits as supplements, complements, and adversaries, (2) nonprofits as the intersection of demand vs. supply and instrument vs. expression, and (3) nonprofits as multiplayers. To answer the second research question that what the roles of nonprofits are in collaborative governance, each of the three approaches to the nonprofit roles is reviewed. Then strengths and weakness of the classification are discussed.

3.2.1 Nonprofits as Supplements, Complements, and Adversaries

Young (1999) suggests three types of nonprofit roles, i.e., supplementary, complementary, and adversarial roles, based on the relationship of nonprofits with government. Theoretical backgrounds explaining each role are presented in the following.

Table 3.1: Nonprofit Role Typology (Young, 1999)

Types	Descriptions	Diagrams
Supplements	<ul style="list-style-type: none"> Compensating for a lack of services by governments Meet the heterogeneous service demands which cannot met by governments 	 <p>A diagram showing three blue circles. The first circle contains 'NPO', followed by a plus sign '+', then a second circle containing 'Other', followed by an equals sign '=', and finally a third circle containing 'All'.</p>
Complements	<ul style="list-style-type: none"> Partner or contractual relationship Provide services when contracting out is more cost-effective 	 <p>A pie chart divided into three segments. The largest segment is labeled 'Gov't', the top-right segment is labeled 'NPO', and the bottom segment is labeled 'Business'.</p>
Adversaries	Press governments to provide new services for minorities	 <p>A diagram of a seesaw (a horizontal line tilted upwards from left to right). A blue arrow points down at the left end, and another blue arrow points up at the right end. The word 'change' is written below the left end and above the right end.</p>

Source: Young (1999)

Source: Derrick-Mills (2015, p.245)

3.2.1.1 Nonprofits as Supplements

Nonprofits as supplements provide services, which are not provided by governments, on a voluntary basis. According to Weisbrod (1975), a government provides public goods (i.e., non-rivalrous and non-excludable) to the constituents with diverse preferences within a political jurisdiction. Because government's decision on the level of public goods to provide is made based on voting mechanism, the preferences of median voters are primarily considered. Service provisions of the government are also constrained since the government provides services in a uniform and universal way and levies same level of taxes (Douglas, 1987). As a result, government fails to provide citizens with public goods efficiently. This means that some citizens are oversupplied, and others are under-supplied than they prefer. As a solution of the problem, nonprofit organizations supplement public goods to fill the unmet needs when governments cannot meet heterogeneous service demands.

Typically, rapid reliefs after a disaster are usually performed by local nonprofit organizations. Because local nonprofits are proximate to the affected people, they provide basic goods like food, clothes, and shelters timely and effectively. For example, when a series of tornadoes touches down Oklahoma on May 2013, local nonprofits such as Feed the Children and the Regional Food Bank of Oklahoma provided foods and shelters to the displaced people (Murphy & Pudlo, 2017). So, nonprofits *supplement* the roles that are played by local agencies during emergency relief.

3.2.1.2 Nonprofits as Complements

Nonprofits as complements have contracts or partnerships with government that government funds and nonprofits deliver services. Young (1999) provides rationales of the

complementary perspective on the nonprofit-government relationship based on economic theories. First, a complementary role of nonprofits is understood based on collective action theory (Olson, 1965). If the service to be served is non-rivalous and non-excludable (i.e., public goods), no one is likely to contribute to provide the service on a voluntary basis. Instead, once the service is provided by a party of the group, “free riding” of the rest in the group is manifested, and eventually the service will not be provided properly. Hence, as a solution of the collective action problem, government finances the service and nonprofits undertake service delivery.

Transaction cost theory helps clear understanding of the nonprofit role as complements as well. When government attempts to provide diverse public services directly, more costs can be required to administer and manage those services. Depending on the type of service, different sectors (i.e., nonprofits or for-profits) have more capacity to achieve economies of scale, so at some point, it is less expensive for government to contract services out to other sectors than producing them internally (Coase, 1937).

However, the cost effectiveness cannot explain fully why government works with nonprofit organizations rather than the business sector. Another aspect of transaction cost theory is the primary characteristics of nonprofits. That is, the nonprofit sector has a variety of bottom lines rather than making profits. Government contracts out not only to reduce service delivery costs but also to better respond to differentiated demands of citizens. Responding to the heterogeneous demands often requires much information. As a solution, government can contract out services to the private sectors with sufficient information about consumers. However, without own information, government cannot guarantee whether the services are

differentiated enough to satisfy various preferences. Contracts with nonprofits are more advantageous to the government in terms of reducing negotiating, monitoring and enforcing costs than ones with for-profits. It is because nonprofit organizations rarely shirk the responsibilities for making more profits (Steinberg, 1997).

3.2.1.3 Nonprofits as Adversaries

Nonprofits as adversaries stimulate the government to make legislation or to change policies. An adversarial relationship between nonprofits and governments is substantial in understanding how new policies that reflect minorities' voice are made. Nonprofit advocacy can be illuminated with the government failure theory (Weisbrod, 1975). When service preferences are heterogeneous within a community, demands of minor groups are not reflected well. Then minorities develop self-organizations to deliver services that reflect their preferences, and even give pressure on governments to defend their interests. New policy proposals in favor of minority groups are initially poorly adopted by the government, but they eventually receive more support as efficacy of voluntary contributions proves (Young, 1999).

Reciprocally, government attempts to influence nonprofit behavior. Economy theory also helps better understanding of why government oversees nonprofit organizations on occasion. Based on the contract failure theory (Hansmann, 1980), nonprofits play an effective role in the provision of services in case of information asymmetry between producers and consumers of the services where consumers can be deceived by producers. More specifically, non-distribution constraint of nonprofits significantly lowers the possibility of cheating consumers when comparing to for-profit firms.

Another governing structure of nonprofits that donors and consumers play an efficient

role of monitoring service provision makes nonprofit organizations more trustworthy (Ben-Ner & Gui, 2003). Despite their trustworthiness, nonprofits need to be monitored and regulated because the trustworthiness can be ensured on the premise of nonprofit governing structures (Young, 1999). To summarize, nonprofit organizations contribute to advocacy of minorities, especially where the information asymmetry is severe. Efficacy of nonprofit role as adversaries is ensured by government's oversight mechanism.

Three roles of nonprofits are not mutually exclusive and are present all together at any time. But one role of them has been historically more dominant than others during a certain period. The historical review of the government-nonprofit relationships in the United States is helpful for understanding. In the 17th century, new forms of charitable activities such as orphanage and relief were conducted by minorities. The services that were outside the interest of the government were provided by ethnic and religious organizations without government support. Beginning as one of the colonial welfare systems, nonprofit activities have expanded into various programs with the emergence of large foundations based on private wealth such as Carnegie and Rockefeller in the early 20th century (Young, 1999).

However, the supplementary perspective cannot account for entire history of nonprofit activities since the role is not dominant in the relationship between nonprofits and government (Hall, 2002; Nielsen, 1979). The gap can be partly filled with the complementary perspective. In the late 19th and the early 20th centuries, nonprofit provision in the health, social service, and art areas with government funding were commonly observed. Contractual arrangements between government and nonprofit organizations were dramatically expanded during the 1960s and 1970s and peaked in the early 1980s. Although the partnership was challenged with

the cutback of federal funding in the Reagan administration, the interaction between nonprofits and government has commonly observed (Young, 1999).

One side of whole nonprofit history remains unrevealed without looking through the adversarial lens. As the nonprofit sector became more dependent on government funding in the 1960s and 1970s, the government tended to more control and regulate nonprofit activities. Through the mid- and the end of the 20th century, the government continued to restrict advocacy activities of tax-exempt organizations through various ways like tax reform and the Istook amendment. Meanwhile, the nonprofit sector engagement in public affairs became more apparent. The nonprofit sector, especially aforementioned large foundations (e.g., Carnegie and Rockefeller), intended to change society in social, economic, and political terms by mobilizing the influential citizens and forming public opinion. The history of the government-nonprofit relationship in the United States demonstrates overlapping existence of three nonprofit roles (i.e., supplements, complements, and adversaries), so we need to take a look through those three lens at the same time, to understand the relationship.

3.2.1.4 Strengths and Weaknesses

Nonprofit roles based on the flow of resources, suggested by Young (1999), clearly contrast the characteristics of independence and interdependence between nonprofit sector and the government. The supplements category suggests that nonprofit organizations are autonomous and independent from the government. These nonprofits decide autonomously what kind of services to offer to fill the government shortage and then mobilize resources they need on their own. That is, the relationship between government and nonprofit sector is characterized by “operational independence and zero-sum thinking” (Anheier, 2014, p. 432).

In contrast, nonprofits as complements mainly provide services contracted out from the government. In the complementary relationship between nonprofits and government, “the simultaneous two-way flow of resources” (Saidel, 1991, p. 550) is observed. Resources include not only funds but also non-monetary elements like information, expertise, and political support (Saidel, 1991). In the complementary relation, two sectors achieve mutual gains. That is, the government achieves efficiency through contracting out, and the nonprofit easily secures fund.

Despite solid theoretical foundation, the emphasis on what position the nonprofit takes in the relationships with government makes it difficult to reflect some important roles of the nonprofit sector such as social entrepreneurship and individual expression (see Figure 3.3). For example, many nonprofit organizations adopt innovative ways to broaden their financial sources (Zimmermann, 1999) and to achieve social values (Weerawardena & Mort, 2012). For many of nonprofit organizations, voluntary actions are considered as investments to create social wealth, not simply charity for the needy (Anheier, 2014).

3.2.2 Nonprofits as the Intersection of Demand vs. Supply and Instrument vs. Expression

Frumkin (2002) provides four critical functions of nonprofit sector based on two different dimensions. One consideration is whether the nonprofit actions are driven by demand-side or supply-side. The other consideration is whether the nonprofit actions are rationalized as instruments or expression. As a result of constructing a matrix with two dimensions as each axis, the following four roles are generated: providing services, mobilizing civic and political engagement, supporting social entrepreneurship, and actualizing personal values.

3.2.2.1 What Drives Activities of the Nonprofit Sector: Demand vs. Supply

From the demand-side perspective, nonprofit activities are explained as responses to the demands of customers. The nonprofit sector has grown with the function of providing social needs unmet by other sectors. Especially, it has been argued that nonprofits are responsible for serving underprivileged groups in society. As aforementioned, government typically focuses on preferences of median voters, and thus remaining minority demands unmet (Douglas, 1987). Advantaged class is affordable to purchase high cost of goods or services. Accordingly, demands of the needy people like food, a medical service, and housing are remained unmet. The unsatisfied demands of the minorities can be met through nonprofit activities. Nonprofit organizations not only provide services directly to disadvantaged people but also advocate their participation in political areas (Frumkin, 2002).

As an alternative, a supply-side approach posits that nonprofit activities are driven by resources from, and commitment of, donors, volunteers, social entrepreneurs, and staffs. Descriptively, the theory underlines how the entrepreneurial nonprofit model challenges typical models based on government failure and market failure theories. The role of supply groups such as donors, volunteers, and social enterprises is emphasized as a real force driving the nonprofit sector. That is, the nonprofit sector is maintained by supply groups' intention to help needy people rather than demands of marginalized people. Thus, the supply-side perspective prioritizes protection of interests and values of voluntary actors while the demand-side approach advocates interests of the marginalized in society. The theory argues that the interests and values of voluntary actors should be protected first in order to ensure a

continuous flow of philanthropic resources and ideas from donors and volunteers (Frumkin, 2002).

3.2.2.2 What Justifies Nonprofit Sector: Instrument vs. Expression

The commitment of nonprofit organizations to the wide range of activities in society leads to two different ideas about the justification of nonprofit activities (Frumkin, 2002). One perspective is that nonprofit activities are justified as a useful instrument to deliver important public services in communities. The role as a service delivery tool has been increasingly emphasized with efforts to measure the performance of the nonprofit sector. More specifically, the sector has increased the efficiency of nonprofit organizations in providing public-purpose programs by evaluating the outcomes of their activities (Frumkin, 2002).

Figure 3.1: Matrix of Nonprofit Roles

	Demand-side orientation	Supply-side orientation
Instrumental rationale	<p><i>Service delivery</i></p> <p>Provides unmet services by government and market</p>	<p><i>Social entrepreneurship</i></p> <p>Provides a channel for entrepreneurs to transfer resources and creates social enterprises</p>
Expressive rationale	<p><i>Civic and political engagement</i></p> <p>Advocates policies, promotes citizen engagement, and creates social capital within communities</p>	<p><i>Value and faith expression</i></p> <p>Provides opportunities that nonprofit actors (i.e., volunteer, employees, and donors) express values and faith, and commitments</p>

Source: Frumkin (2002)

The other notion is that nonprofit organizations are meaningful since they help individuals express their personal values and faiths through the voluntary works and donations. In specific, donating to a certain nonprofit organization indicates that the donor expresses support for the specific values that the nonprofit organization pursues. Likewise, volunteers

give their voices to a specific cause through their dedication to nonprofit organizations that advocate the cause. Four nonprofit roles are presented in Figure 3.1. Each nonprofit organization can play more than one role simultaneously.

3.2.2.3 Strengths and Weaknesses

The intersectionality of nonprofit orientation and rationale provides systematic perspective on nonprofit roles as Frumkin argues (see Figure 3.1). Especially, supply-side approach to nonprofit orientation sheds light on nonprofit actors (i.e., staffs, volunteers, and donors) as important components of nonprofit management. The supply perspective is meaningful in that it, in part, offers the theoretical background for nonprofit management. More specifically, volunteers are vital human resources for nonprofit organizations given that the nonprofit sector tends to be more labor-intensive than capital-intensive (Anheier, 2014).

Nonprofit organizations rely heavily on volunteer workforces. For example, 61.2 million volunteers worked about 5.7 billion hours in the United States in 2006 (Eisner et al., 2009). However, there has been significant turnover in volunteers. From 2005 to 2006, 20.9 million (Brudney & Meijs, 2009) and, between 2006 and 2007, 21.7 million (Eisner et al., 2009) quit the volunteering. Volunteers are primarily motivated by various non-monetary rewards. They expect to achieve a philanthropic desire, develop their talents, or improve their resume through volunteer experiences (Anheier, 2014). The loss of volunteers implies that protecting interests of volunteers is important to retaining the volunteers. Looking into the nonprofit roles through the supply-side lens contributes to development of nonprofit management strategies in terms of human resource and fundraising.

Nevertheless, the supply-centered approach can undermine the mission of the

nonprofit organization. There is a controversy that a supply-centered approach overlooks the serious demand of the needy for charitable resources (Frumkin, 2002). A stronger focus should be placed on the demand side since the mission of a nonprofit organization is directly related to the demand rather than supply. Protecting the interests of suppliers should be a secondary goal necessary to achieve the fundamental goal of meeting the demands.

3.2.3 Nonprofits as Multiplayers

Despite outstanding contribution of Young's (1999) and Frumkin's (2002) works to the nonprofit role theory, few empirical studies have conducted based on them. Moulton and Eckerd (2012) further develop the work of Frumkin (2002) by offering subdivided nonprofit roles with measurement indicators. The typology of Moulton and Eckerd includes six roles of nonprofits: (1) service provision, (2) innovation, (3) individual expression, (4) political advocacy, (5) citizen engagement, and (6) social capital creation. With the expectation of the likelihood of empirically identifying a variety of distinctive nonprofit roles in climate change adaptation—i.e., answering the second research question, I review the concept of each role and discuss the distinctiveness and overlap of the six roles.

3.2.3.1 Service Provision

Delivery of public goods/services is the most fundamental function of nonprofit organizations when considering the growth of nonprofits. Based on government failure and market failure theories, the nonprofit sector arises to meet the demands for services that are neglected by the government or market. In the early stage of nonprofit sector development, the provision of services was made by independent financing of nonprofit organizations. Then,

partnerships with the government have further strengthened the nonprofit function to provide services. As measures to improve the efficiency of service delivery, nonprofits provide services, and the government funds the services. That is, this category includes the nonprofit roles as supplements and complements to the government suggested by Young (1999). The service delivery in nonprofit sector is advantageous over those in other sectors like government or market. It is because nonprofits are more flexible than governments in operation and policy changes.

Furthermore, the non-distribution constraint in the nonprofit sector allows service delivery by nonprofit to be more trustworthy, especially when it is difficult to assess the service quality (Hansmann, 1980). According to Moulton and Eckerd (2012), service delivery role is performed most distinctively from other roles. More specifically, service delivery role is analyzed to have least correlation with other roles, and especially citizen engagement and individual expression roles are highly correlated with non-service provision roles such as political advocacy, innovation, and social capital creation (Moulton & Eckerd, 2012). As a representative example of nonprofit service delivery, when disasters occur, many nonprofits like Red Cross, Salvation Army, and Samaritan's Purse serve affected people. Local nonprofit organizations often reach out to the people and figure out what the people need earlier than the government does.

3.2.3.2 Innovation

As the service delivery functions traditionally practiced in the nonprofit sector were increasingly eroded by the market sector, innovation from nonprofit organizations has been required (Weerawardena & Mort, 2012). More importantly, nonprofit organizations have been

called on to innovate as a way to secure the organization's finances (Zimmermann, 1999). Based on theories of competition, it has been highlighted that innovation adopted by nonprofits, as in the case of businesses, makes them more competitive and, in turn, strengthens their financial position (McDonald, 2007). Weerawardena and Mort (2012) find that innovation throughout the work of nonprofit organizations is critical to increasing social impacts especially when the financial environment is highly uncertain. Social entrepreneurial nonprofits build the innovative competencies through active learning from markets, relations with other organizations, and internal experiments with new operation.

Innovation brings about competitive advantage to both nonprofits and businesses. However, while the business sector seeks innovation for its own benefits, social entrepreneurial nonprofit organizations seek for operational innovations to create social values more effectively (Thompson, 2002). The nonprofit sector provides social entrepreneurs with opportunities to realize their visions of public values (Frumkin, 2002). In specific, nonprofit organizations compete to achieve their missions, namely to solve the societal problems that commonly faced by people in need, such as hunger, disease, and homelessness (McDonald, 2007). Thus, nonprofit organizations with a clear and motivating mission are likely to be more innovative than others because they focus more on the innovations that are most supportive of their mission achievement (McDonald, 2007).

3.2.3.3 Individual Expression

Frumkin (2002) suggests that nonprofit organizations function as channels for expressing personal values and beliefs to staffs, donors, and volunteers. Despite some discrepancies (Lee, 2012; Lee & Wilkins, 2011), nonprofit staffs are consistent with public

servants in that they have more prosocial motivations for their jobs than for-profit workers (Lee, 2012; Rotolo & Wilson, 2006). Given that, the commitment of employees and volunteers to nonprofit activities can be explained by public service motivation (PSM). Vandenabeele (2007) defines PSM as “the belief, values and attitudes that go beyond self-interest or organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate (p.547).” With an application of public service motivation theories to nonprofit sector, voluntary engagement in nonprofit activities is based on a desire to pursue public values such as public interests and a sense of social responsibility (Kim & Vandenabeele, 2010), and it depends on intrinsic rewards rather than extrinsic rewards like monetary benefits (Perry & Wise, 1990).

Donor motivation literature reveals that donation to privately provided public goods is motivated by a personal “warm glow” of helping needy people (Andreoni, 1989, 1990). Nonprofit organizations allow donors to feel a sense of satisfaction (i.e., warm glow) through charitable giving. More specifically, nonprofit actors express compassion for the people in need and the underprivileged through philanthropic works (Perry, 1996), and they express a desire to change society or a feeling of self-realization through policy advocacy (Kelman, 1987; Rawls, 2009). Given that many nonprofits are reliant to volunteer labor (Hager & Brudney, 2004), nonprofit role of individual expression is critical for nonprofit sustainability. Garner and Garner (2011) empirically find that voice opportunities tend to increase volunteer retention.

3.2.3.4 Political Advocacy

Political advocacy, in a narrow sense, refers to activities that are directly involved in the policy making process such as lobbying or influencing legislation (Avner, 2010). In a broad

sense, however, it includes indirect efforts to affect political issues (Boris & Mosher-Williams, 1998). Many nonprofit organizations voice on behalf of disempowered groups and advocate their interests, and thus helping democratic governments to be responsive to the needs of all the public (Kimberlin, 2010). As a result, advocacy function of nonprofits has a unique organizational competence (Salamon, 2002). Advocacy of municipal governments is highly dependent on elected officials. Political leaders tend to be less concerned with public affairs that do not bring political benefits to them. Given that advocacy activities by nonprofits are advantageous in overcoming political apathy of local governments, a political advocacy role of the nonprofit sector has another competence.

The political advocacy role is, in part, linked to the social capital creation in that they emphasize mobilizing and empowering the underrepresented to give their voice (Frumkin, 2002), which is also consistent with the works of Putnam (1993) and LeRoux (2007). However, Moulton and Eckerd (2012) demonstrate that political advocacy role is performed in opposite direction to social capital creation role in association with government funding. In specific, while political advocacy role is more likely to be performed by nonprofits with more government funding, social capital creation role is less likely, and, in turn, it implies the two roles are distinct.

3.2.3.5 Citizen Engagement

The concept of citizen engagement role is differentiated from political advocacy in that the former underlines the direct participation of citizens in the decision-making process whereas the latter focuses on nonprofit activities as representatives of customers (Moulton & Eckerd, 2012). Civic mindedness, which refers to the belief that individuals with moral and civic

responsibility perceive themselves as members of a larger social structure and, therefore, consider social issues at least partly theirs (Ehrlich, 2000), is learned through socialization throughout life. Thus, individuals with more experience or education related to civic engagement are more likely to engage in public issues (Anheier, 2014). Shiller (2013) also finds that civic engagement is promoted by the involvement in nonprofit programs that develop the capabilities to make changes. As a representative example, the American Association of State Colleges and Universities, the Carnegie Foundation, and The New York Times have worked to integrate civic engagement into higher education curricula through the American Democracy Project (Mehaffy, 2005).

Along with building civic engagement capacity, nonprofit organizations also directly facilitate citizen engagement. A comparative study (Kasymova, 2014) reveals that citizen participation initiated by a grassroots community-based nonprofit is more effective than participation initiated by state or local governments. Citizen participation initiated by state and municipal governments is authoritarian (i.e., only informing citizen of programs) and bureaucratic (i.e., informing citizen and receiving feedback, but deciding unilaterally) rather than democratic (i.e., jointly deciding and implementing programs).

3.2.3.6 Social Capital Creation

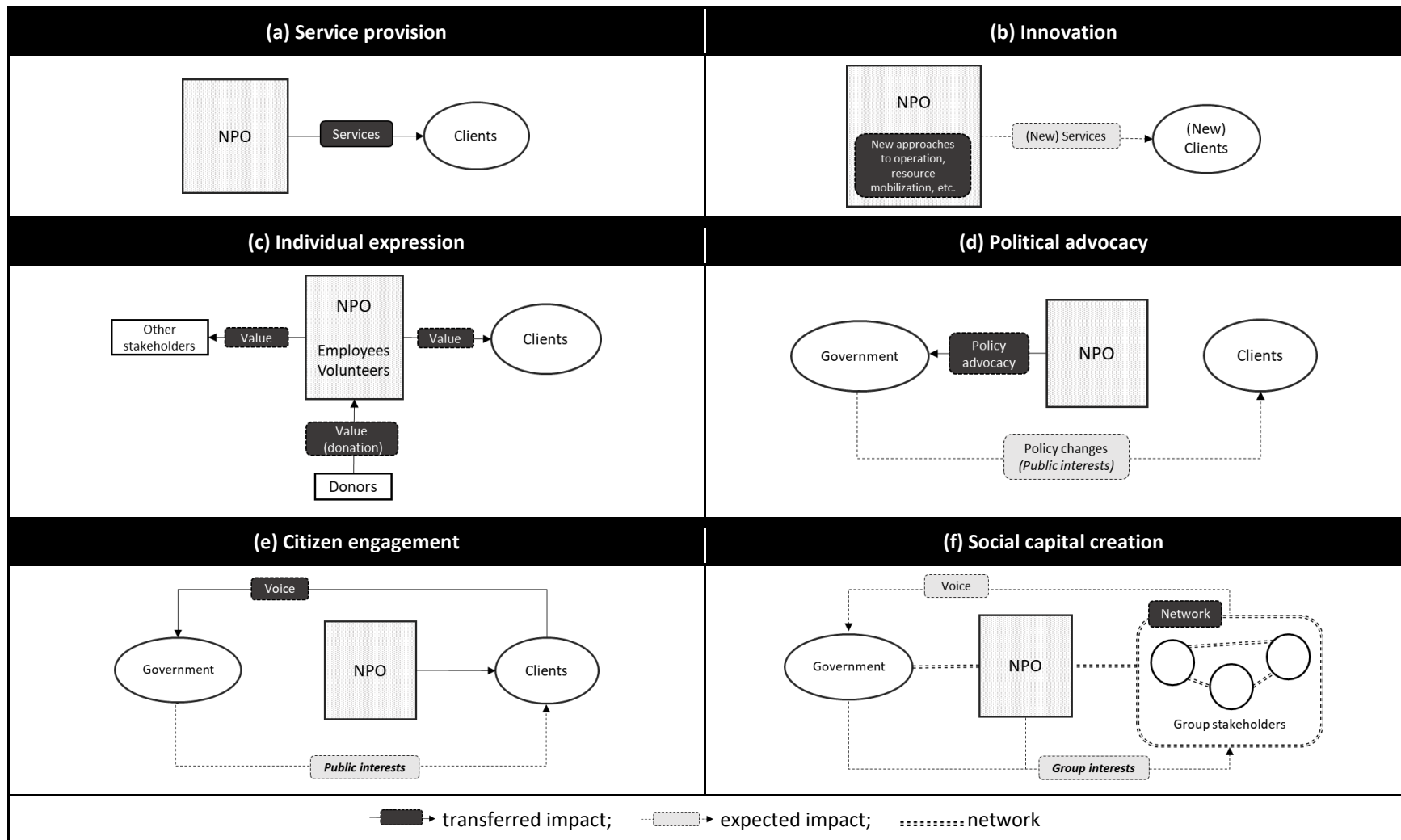
From the social capital perspective, voluntary associations create opportunities where social networks, i.e., social capital, are developed among diverse individuals in a community. Through the networks, community members feel a sense of community, exercise leadership, exchange information, and take actions for community interests (Putnam, 2013). Nonprofits bring people in their communities together through community events or specific issues, which

in turn promotes civic engagement (Handy et al., 2014). Citizen engagement is influenced by organizational actions to aggregate individuals. Citizens in communities with many membership associations tend to organize horizontal relationships based on reciprocal trust, and, as a result, they are more likely to engage in public issues (Putnam, 1993).

Since social capital is often associated with citizen engagement, citizen engagement literature, in general, considers social capital creation as one of patterns of citizen engagement or use them interchangeably (Anheier, 2014; Frumkin, 2002; Handy et al., 2014; Putnam, 1993, 2013). However, Schneider (2007) identifies that social capital creation does not always engender civic engagement. Whereas civic engagement brings benefits to the entire community based on generalized trust, social capital allows only network members to benefit from mutual and enforceable trust among members. A comparison of Poverty Prevention in Washington D.C. and Ethnic Mission in Kenosha, Wisconsin shows the difference of the two concepts. Poverty Prevention serves the homeless throughout the community with the resources from various groups in the community. However, Ethnic Mission offers the services to the marginalized ethnic group in the Kenosha only through connections within the Latino community (Schneider, 2007).

Moulton and Eckerd (2012) support that the concepts of social capital creation and citizen engagement are not always identical. Correlation analysis between nonprofit roles shows that citizen participation can be driven by social capital or political advocacy, but there is no significant relationship between social capital and political advocacy. The finding indicates that those three roles can be considered to be distinct from each other. Figure 3.2 presents description of nonprofit roles proposed by Moulton and Eckerd (2012).

Figure 3.2: Diagrams of Nonprofit Roles (Moulton & Eckerd, 2012)



Source: revised from Levine Daniel & Fyall (2019)

3.2.3.7 Strengths and Weaknesses

The significance of the Moulton and Eckerd classification is placed on its usefulness for empirical study on nonprofit roles. It provides precise and clear descriptions of each role, and, in turn, it facilitates empirical testing (Levine Daniel & Fyall, 2019). The typology based on the relationship between nonprofits and government (Young, 1999) does not provide sufficient empirical evidence, while presenting solid theories on nonprofit functions as a service provider and a policy advocate. The classification suggested by Moulton and Eckerd complements the weakness of Young's work. Although scholars have conducted empirical studies on a specific nonprofit role (Child & Grønbjerg, 2007; LeRoux, 2007, 2009; McDonald, 2007; Mosley, 2010), few studies have empirically analyzed multiple roles of nonprofit organizations simultaneously. Thus, creation of the nonprofit role index is meaningful in that it increases the possibility of future empirical study.

This role classification also facilitates understanding of the power relationship among stakeholders. By looking at the nonprofit position in various relationships with multiple stakeholders, we can predict the outcome of each relationship (see Figure 3.2). For example, nonprofit organizations as policy advocates directly pressure governments to create or change policies that meet the public interests. In contrast, nonprofit organizations as democratic intermediaries encourage citizens to participate in the decision-making process, and as a result, the government creates the public interests. However, the detailed classification, paradoxically, poses a potential risk of being unable to identify some distinctive roles (i.e., political advocacy, citizen engagement, and social capital creation) due to partial overlap of them.

3.2.4 Summary of Three Perspectives on Nonprofit Roles

To understand the theoretical frameworks explaining the nonprofit roles and the classification of them, three perspectives on nonprofit role were reviewed and discussed. Based on the relationship of nonprofit organizations with the government, the nonprofit sector *supplements* the roles that are not played sufficiently by governments and *complements* government roles under contract with the government. The nonprofit sector also influences government policies (i.e., *adversaries*) (Young, 1999).

Table 3.2: Comparison of Nonprofit Role Typologies

Young (1999)	Frumkin (2002)	Moulton & Eckerd (2012)
Origin		
Based on the relationship of nonprofit with the government	From the intersectionality of orientation dimension and rationale dimension	Build on Frumkin's work (2002) and adding particular roles emphasized in existing studies
Strengths		
Contrasts the independence and interdependence between nonprofits and the government	<ul style="list-style-type: none"> Provides systematic perspective on nonprofit roles Especially, supply-side approach sheds light on nonprofit actors as important components of nonprofit management 	<ul style="list-style-type: none"> Nonprofit role index is useful for empirical analysis of multiple nonprofit roles Facilitates understanding of power relationships among stakeholders
Weaknesses		
Cannot account for some important roles like social entrepreneurship and individual expression	Supply-centered approach can undermine the mission of the nonprofit organization	Potential risk of being unable to identify some distinctive roles (i.e., political advocacy, citizen engagement, and social capital creation) due to partial overlap of them

The intersection of two different dimensions, i.e., driving force of nonprofit actions and rationale of the nonprofit sector generates another classification of the nonprofit roles: *service*

delivery, social entrepreneurship, values and faith, and civic and political engagement. From one perspective, voluntary actions of the nonprofit organizations are motivated by demands of the needy people. The other viewpoint argues that nonprofit activities are led by the groups that provide resources. Concerning the rationales of nonprofit actions, one side argues that nonprofit activities are justified as an instrument to provide services, while the other emphasizes the nonprofit function that allows participants to express individual values and beliefs (Frumkin, 2002).

Building on the Frumkin's work (2002), Moulton and Eckerd (2012) propose six nonprofit roles. The roles of *service delivery, innovation, and individual expression* are consistent with the former typology (i.e., Frumkin's). Despite the partial overlap, *political advocacy, citizen engagement, and social capital creation* fall into three separate roles based on literature review and empirical analysis of correlations.

To facilitate understanding and comparison of the three typologies of nonprofit roles, I attempted to match the nonprofit role components. Figure 3.3 reports that the nonprofit functions proposed by Frumkin (2002) are in large consistent with the typology of Moulton and Eckerd (2012). However, Moulton and Eckerd propose more detailed categories than Frumkin. Young's typology (1999) is in part consistent with the roles suggested by the other two studies, but does not account for some functions such as social entrepreneurship, individual expression, and social capital building.

To answer the second research question, what are the roles of nonprofits in collaborative governance for climate change adaptation, the dissertation adopts the typology suggested by Moulton and Eckerd (2012). It is important to secure validity of the measurement

to clearly capture the various nonprofit roles. Despite the limitation, the typology of Moulton and Eckerd has a strong advantage for empirical studies of nonprofit roles in that it provides nonprofit role indexes.

Figure 3.3: Nonprofit Role Components Matching of Three Typologies

Frumkin (2002)	Moulton & Eckerd (2012)	Young (1999)
<p><i>Service delivery</i></p> <ul style="list-style-type: none"> • Provide services to meet social needs, especially demands of disadvantaged groups 	<p><i>Service provision</i></p> <ul style="list-style-type: none"> • Deliver services that are not provided well by the government or market (i.e., education, social services, health, etc.) 	<p><i>Supplements</i></p> <ul style="list-style-type: none"> • Provide services that are not given by government
<p><i>Social entrepreneurship</i></p> <ul style="list-style-type: none"> • Provide social entrepreneurs with opportunities to realize social values 	<p><i>Innovation</i></p> <ul style="list-style-type: none"> • Apply innovative ways to solve social problems & secure finances 	<p><i>Complements</i></p> <ul style="list-style-type: none"> • Provide services that are funded by government
<p><i>Values & faith</i></p> <ul style="list-style-type: none"> • Help staffs, volunteers, and donors express values & faith through work 	<p><i>Individual expression</i></p> <ul style="list-style-type: none"> • Give staffs, volunteers, and donors the opportunities to express their values 	
<p><i>Civic and political engagement</i></p> <ul style="list-style-type: none"> • Advocate for social causes • Mobilize the public for political issues • Create social network (i.e., social capital) within communities 	<p><i>Political advocacy</i></p> <ul style="list-style-type: none"> • Influence political issues • Lobby & influence legislation <p><i>Citizen engagement</i></p> <ul style="list-style-type: none"> • Mobilize citizen to participate in decision-making process <p><i>Social capital creation</i></p> <ul style="list-style-type: none"> • Bring people in communities together & form social capital 	<p><i>Adversaries</i></p> <ul style="list-style-type: none"> • Minorities develop self-organizations to meet their preferences • Prod government to protect interests of minorities

CHAPTER 4

RESEARCH DESIGN

4.1 Site Selection: South Korea

To answer the questions that why nonprofit organizations contribute to collaborative governance (i.e., motivations) and that what they do in the collaboration (i.e., roles), nonprofits in South Korea will be examined. The region is appropriate to test hypotheses regarding nonprofit contribution to collaboration for climate change adaptation for the following reasons: vulnerability to climate change, existence of central government-led collaborative governance for climate change adaptation, and the growth of nonprofit sector. Prior to explanation of data collection, vulnerability to climate change and the collaborative governance for climate change adaptation in South Korea will be provided along with an overview of nonprofit sector in South Korea.

4.1.1 Vulnerability to Climate Change

South Korea is important to the study of collaboration for climate change adaptation due to the climate change vulnerability. South Korea is threatened by various types of hazards such as typhoon, local heavy rain, sea level rise, and temperature rise. These hazards are expected to be more exacerbated due to the climate change. The average annual temperature in Korea has been steadily rising since 1980s. In particular, frequency, intensity, and duration of heat wave have clearly increased since the late 1990s (KMA, 2020).

Especially, South Korea has a vulnerability to climate change originated from geographic factor. South Korea is a peninsula surrounded by the sea on three sides (i.e., east, south, and west) of the country. Thus, sea level rise and a coastline erosion due to climate change are

threatening coastal communities. Mean sea level has risen by 2.90mm per year between 1989 and 2017, which is higher than global rate of sea level rise for the same period, i.e., 2.00mm/yr. Regionally, sea level rise around Jeju Island is the highest at 4.44mm per year, and the rate in the east coasts is 3.70mm per year. The estimated mean sea level rise is 1.30m by 2100, which is expected to submerge 1.2% of total area of South Korea (KMA, 2020).

Table 4.1: Main Hazards and Disasters in South Korea

Hazards	Disasters
Typhoon and local heavy rain	Flooding
Temperature rise	Drought and heat wave
Sea level rise	Agricultural and human disease

Source: Korea Meteorological Administration (2020)

4.1.2 Collaborative Governance for Climate Change Adaptation

South Korea has another significance to the study of collaboration for climate change adaptation in terms of providing a good practice of the nationwide collaborative governance. Hierarchical and horizontal governance have been in part established through the master plan and the action plans for climate change adaptation (Koh & Yi, 2015). More specifically, the central government-led measures for climate change adaptation have been created and operated nationwide for the past decade. In accordance with the *Framework Act on Low Carbon, Green Growth*, the Korean government creates a master plan through risk analysis based on the IPCC climate change scenario and updates every 5 years. At the central government level, a consultative body, which is composed of members of the Senior Executive Service from relevant central administrative agencies, is operated to discuss climate change adaptation issues. The central government distributes a guideline to establish regional action

plans for climate change adaptation at local level. Central administrative agencies and local governments (*Si/Do* and *Si/Gun/Gu*) establish action plans in accordance with the master plan and implement projects. When making action plans, governments should listen to opinions of stakeholders within the community such as residents, council, non-governmental entities, and experts. They conduct self-evaluation every year and the Ministry of Environment selects best practices and gives incentives through comprehensive evaluation. The result of the comprehensive evaluation and relevant information are opened to the public. Within the collaborative governance for climate change adaptation, the Korea Adaptation Center for Climate Change (KACCC), which was established by the Ministry of Environment, conducts climate change adaptation researches and distributes relevant knowledge and information to central and local governments. The KACCC also supports policy-making and implementation of action plans through the networks between governments, public agencies, and the private sector.

4.1.3 Nonprofit Sector in South Korea

The nonprofit sector in South Korea has been growing with a close association with the societal and political situations in Korea. Korean nonprofit sector has emerged as an independent institutional sector since the liberation from Japan in 1945. The Korean nonprofit organizations were primarily service-oriented for the needy people until the civil movement in 1960. From 1960 to 1987, civil organization has dramatically grown as the resistance against the authoritarian regime. During the period, the representative activities of civic groups include democratization movements initiated by students and political opposition groups (e.g., *Minchungryun* and *Minchuhyup*) and mobilization of citizens for economic development of the

nation by pro-government organizations (e.g., *Saemaul Undong*). With the end of the authoritarian regime in 1987, new types of activities such as civic engagement in policymaking, advocacy of human rights, and protection of public resources like natural environment were led by new non-governmental organizations between 1987 and the early 1990s (Kim & Hwang, 2002). Scholars argue that the period is the beginning of the civil society in South Korea (Choi & Yang, 2011; Kim & Hwang, 2002).

Nonprofit organizations in South Korean account for various terms based on ownership, main actors, legal context, etc. Kim and Hwang (2002) provide major terms for nonprofit organizations such as NPOs, NGOs, civil society organizations, civil movement organizations, public interest corporations, and nonprofit civil organizations. NPOs (*beyoungri danche*) refer to all organizations that are neither government-owned nor for-profit. NGOs (*mingan danche*) describe civilian organizations (i.e., private organizations) except for educational institutions and medical institutions. Civil society organizations (*simin danche*) mean public interest-oriented NGOs. They have played a role of monitoring and influencing government policies. Civil movement organizations (*simin woondong danche*) are civic groups that advocate democracy and pursue citizen right and social justice. Public interest corporations (*gongik beopin*) and nonprofit civil organizations (*beyoungri mingan danche*) are legal terms. They will be explained in the following sections.

Despite various terms referring to nonprofit sector, I provide three legally defined terms of nonprofit organizations in South Korea to show their relations clearly. One legal term of the nonprofit organizations is nonprofit corporations (*beyoungri beopin*). *Beyoungri* and *beopin* mean not-for-profit and juristic person in Korean, respectively. In accordance with the *Civil Act*

of the Korea, nonprofit corporations (*beyoungri beopin*) refer to associations and foundations that are established for the purpose of academic, religious, charitable, artistic, social, or other nonprofit activities. This type of nonprofit organizations includes both associations seeking the interests of members and organizations for public interest. Nonprofit corporations are formed with a permission of the competent authority and must be registered to the seat of the principal office of the juristic person. Nonprofit corporations are exempt from income tax and other taxes, and they can receive tax-deductible contributions from not only individuals but also corporations.

Another legal term of the nonprofit organizations is public interest corporations (*gongik beopin*). Public interest corporations, as defined by the *Act on the Establishment and Operation of Public Interest Corporations*, refer to juristic persons, either as incorporated foundations or incorporated associations, engaged in the support or payment of school expenses, scholarships or research funds, science and charitable organizations to contribute to the public interest of society. While nonprofit corporations emphasize not-for-profit organizations regardless of interests of members or public interests, public interest corporations only include nonprofit organizations seeking for public interests. Public interest corporations receive the largest tax benefits among nonprofit organizations such as exemption from income tax, inheritance tax, gift tax, and other taxes. They are eligible for tax deductibility for contributions from individuals and corporations, as the same to the nonprofit corporations.

Nonprofit private organization (*beyoungri mingan danche*) is also a legal status of nonprofit organizations, which are defined under the *Assistance for Non-Profit, Non-Governmental Organizations Act*. *Mingan* means non-governmental or private, and *danche*

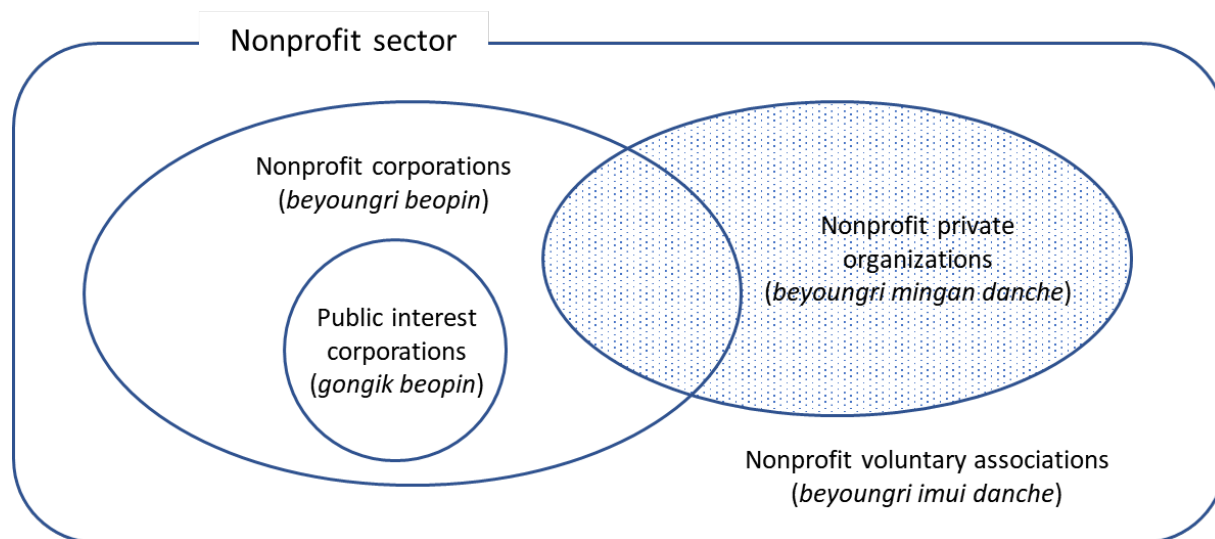
means an organization or an association in Korean. (Kim and Hwang (2002) used ‘nonprofit civil organization,’ but ‘nonprofit private organization’ is appropriate when considering the legal purpose of the government to support voluntary public interest activities in the non-government sector.) The Korean government created the legal status of nonprofit organizations in 2000 to promote public interest activities of nonprofit civil organizations and contribute to the development of a democratic society by providing financial and administrative supports. Not only nonprofit corporations (*beyoungri beopin*) but also nonprofit organizations that are not juristic persons are eligible for the nonprofit private organizations (*beyoungri mingan danche*). Nonprofit private organizations (*beyoungri mingan danche*) registered to a central administrative agency or a Metropolitan City/a Do (province level) in accordance with the law have the rights for government funding, tax reduction or exemption, reduction of postal charges, and other administrative assistance. They qualify for tax deductibility for individual donors, but not corporations.

Nonprofit groups that are not subject to any of above categories are called as There are nonprofit voluntary associations (*beyounri imui danche*), i.e., nonprofit organizations that are not legally defined. The organizations are established by applying to the competent tax office and being assigned a unique identity number (equivalent to EIN of nonprofit organizations in the United States). Table 4.2 provides definitions and characteristics of the various types of nonprofit organizations in South Korea. Relations among the nonprofit organizations are presented in Figure 4.1.

Table 4.2: Classification of the Nonprofit Organizations in South Korea

Type	Definition and Characteristics
Nonprofit corporations (<i>beyoungri beopin</i>)	<i>Civil Act</i> <ul style="list-style-type: none"> • juristic persons established for not-for-nonprofit activities, either interest of members or public interest • require permission of competent authority and registration • exempt from income tax and others • eligible for tax deductibility for individual and corporation contributions
Public interest corporations (<i>gongik beopin</i>)	<i>Act on the Establishment and Operation of Public Interest Corporations</i> <ul style="list-style-type: none"> • juristic persons, either foundations or associations, engaged in activities to contribute to the public interest of society • require permission of competent authority • exempt from income tax, inheritance tax, gift tax, and others • eligible for tax deductibility for individual and corporation contributions
Nonprofit private organizations (<i>beyoungri mingan danche</i>)	<i>Assistance for Non-Profit, Non-Governmental Organizations Act</i> <ul style="list-style-type: none"> • either juristic persons or non-juristic persons • registration • tax exemption or reduction • eligible for tax deductibility for individual donors
Nonprofit voluntary associations (<i>beyoungri imui danche</i>)	<ul style="list-style-type: none"> • Non-legal nonprofit organizations not subject to the above categories • Assigned a unique identity number from tax office

Figure 4.1: Diagram of Nonprofit Sector in South Korea



Despite a rapid growth of the nonprofit sector, the study on nonprofit organizations in South Korea is limited. Many studies on Korean nonprofits have examined the growth and features of nonprofit sector in South Korea descriptively based on historical and political situations (Bidet & Eum, 2011; Choi & Yang, 2011; Kim & Hwang, 2002). Not much attention has been paid to nonprofit roles. Some quantitative studies on Korean nonprofits (Kim & Kim, 2013, 2015) also focus on the general growth of the nonprofit sector rather than various roles of the nonprofit organizations. To fill the gap, this study investigates what roles are played by the Korean nonprofit organizations, especially in the context of climate change adaptation.

4.2 Data Collection

The subjects of my dissertation are nonprofit private organizations (*beyoungri mingan danche*) (i.e., shadowed in Figure 4.1) in South Korea. As aforementioned in the previous section, nonprofit private organizations are registered to a central administrative agency or a Metropolitan City/a *Do* (province level) and eligible for the government funding and other administrative supports under the *Assistance for Nonprofit, Nongovernmental Organizations Act*. For the empirical study on nonprofit collaboration in South Korea, I used a data set of the nonprofit private organizations opened to the public by the Ministry of the Interior and Safety (MOIS) of Korea through the *NPO Public Activity Support System*. The publicized information on the nonprofit private organizations includes organization name, registration number, registration year, chief executive officer, major activities, mailing address, phone number, etc.

According to the MOIS, total 14,713 organizations are registered as nonprofit private organizations (*beyoungri mingan danche*), as of 2019. To test hypotheses in the context of climate change adaptation in South Korea, I consider, among 14,713 nonprofit private

organizations, 1,468 organizations that belong to the following three categories: (1) public safety and emergency management: disaster risk assessment, search and rescue, reliefs, rebuilding infrastructure, (2) energy-related: energy saving (recycling) and new/renewable energy development, and (3) natural resource conservation: conservation of species, nature conservation (river, ocean, and forest), etc. It is noted that, since the data set of Korean nonprofit organizations provided by the MOIS of Korea does not contain service codes such as the National Taxonomy of Exempt Entities (NTEE) in the United States, I categorized the service areas based on descriptions of the main activities of each organization informed by the data set. Table 4.3 shows three subgroups of the survey population based on service areas.

Nonprofit organizations engaging in public safety and emergency management (Category 1), which occupies least portion of the population (i.e., 15.3%), make efforts to reduce disaster risks due to climate change. Organizations like Korean Red Cross and Korea Disaster Relief Association provide disaster relief services such as sheltering and food immediately when disasters occur. In particular, Korea Disaster Relief Association has been delegated by the government to recruit, distribute, and manage donations for affected people. Many local organizations subject to this category are affiliated with the central headquarters, sometimes cooperating with the headquarters and other times acting independently within the community (e.g., Red Cross, Marine Corps Friendship Association, etc.). Category 2 (energy saving and new/renewable energy development) occupy 19.2 percent. Major activities of the group include provision of energy saving tips in daily life, various events for education on climate change and energy issues such as quiz contests, exhibitions, field trips, new and renewable energy experiences, etc. For example, Korea Climate and Environment Network

diagnoses energy consumption and provides consulting services to households, schools, and stores. Korea NGO's Energy Network and Energy Justice Actions also engage in activities to develop policies of greenhouse gas emission reduction. Nonprofit organizations working for natural resource conservation (Category 3) are dominant (i.e., 65.5%). Nonprofit organizations in this category include Korea Federation for Environmental Movements, Green Korea, Environment Action Association and so on. They take various types of activities to protect natural resources from campaigns and educations for citizen awareness of environment problems resulted from climate change to clean-up of environment. The organizations also conduct research for the relevant policies. It should be noted that activities of the single nonprofit organization are not necessarily limited to a certain category. It has been observed that some organizations engage in activities of more than one category. However, the numbers of nonprofit organizations in Table 4.3 were counted only once based on the principal activity. Table 4.3 summarizes major activities of the three nonprofit categories observed in this study.

Samples were randomly selected from a list of nonprofit organizations (i.e., 1,468 Korean nonprofit organizations). Originally, about 300 nonprofit organizations were selected. Since the data set of the Korean nonprofit organizations that was used does not provide email addresses, I first tried to connect with the organizations via phone; I also collected personal email addresses of potential respondents. Because the unit of analysis is an individual nonprofit organization level, it was important to note that the survey questions were answered by individuals who were knowledgeable about the organizations' activities such as chief executive officers, board members, or equivalent staffs. The phone numbers of organizations provided were often incorrect, and some organizations refused to participate in the survey.

Table 4.3: Population of the Survey (N = 1468)

Service area	Examples of NPOs	Major activities	No. of NPOs
Category 1. Public safety and emergency management	<ul style="list-style-type: none"> • Korean Red Cross • Korea Disaster Relief Association • Marine Corps Friendship Association 	<ul style="list-style-type: none"> • Disaster relief activities (e.g., sheltering, food, clothing) • Rescue and first aid • Reconstruction of damaged areas • Meal support for volunteers such as recovery workers • Recruitment, distribution, and management of donations • Education for disaster safety 	225 (15.3%)
Category 2. Energy saving and new/renewable energy development	<ul style="list-style-type: none"> • Korea NGO's Energy Network • Korea Climate & Environment Network • Korea Resources Recycling Association • Energy Justice Actions 	<ul style="list-style-type: none"> • Provision of energy saving tips in daily life • Energy consumption diagnosis and consulting to households, schools, stores, etc. • Events for education on climate change and energy issues (e.g., quiz contests, exhibitions, field trips, new and renewable energy experiences, etc.) • Selection and promotion of best practices for low-carbon emission • Development of energy-related policies (i.e., new/renewable energy development and greenhouse gas emissions reduction) • Collection of recyclable waste and resources 	282 (19.2%)
Category 3. Natural resource conservation	<ul style="list-style-type: none"> • Korea Federation for Environmental Movements • Green Korea • Environment Action Association 	<ul style="list-style-type: none"> • Campaign for conservation of ecological environment such as wildlife habitat and river estuary wetland • River restoration movement • Clean-up of environment (e.g., garbage collection) • Research on climate change adaptation policy • Publication of environmental protection research reports and newsletters • Citizen education of climate change 	961 (65.5%)

Note: Some organizations are engaged in activities of more than one category. Source: Ministry of the Interior and Safety of Korea and websites of the nonprofit organizations

Thus, the survey link was finally sent to 210 organizations via emails. The survey was conducted from January 7, 2021 to February 10, 2021. After two reminding calls, 106 organizations responded to the survey (50.5% response rate). I excluded five observations with missing values for the main questions such as collaboration level, nonprofit roles, annual revenue, etc. Finally, the responses from 101 organizations (48.1% response rate) were analyzed.

Table 4.4 presents characteristics of survey participants in terms of organizations and personal respondents. Total 101 organizations responded to the survey. Based on their principal activity, more than half of organizations (54.4%) among 101 work for the natural resource conservation such as conservation of species and nature conservation (e.g., river, ocean, and forest). 32 nonprofit organizations (31.7%) engage in energy related affairs like energy saving (i.e., recycling) and new/renewable energy development for climate change adaptation. Participants working in the field of public safety and emergency management occupy only 13.9 percent (14 organizations). Nonprofit activities for climate change adaptation are not limited to single areas. Some organizations engage in multiple fields of activities. For example, 32 organizations among 101 respondents work for natural resource conservation as well as energy saving and development.

A third of participating organizations has existed for more than 25 years. Slightly less than another a third of respondents are 15 to 24 years old. Only seven organizations are younger than five years. Regarding annual revenue, around 50 percent of respondents have 50 to 500 million won of annual revenue, followed by 38.6 percent of respondents having less than 50 million won of annual revenue. The number of full-time employees of respondent organizations is generally small. Over the 70 percent of participants have less than five full-time

employees (i.e., paid staffs and volunteers). Only six nonprofit organizations (5.9%) have 15 or more persons of full-time workers.

Table 4.4: Profile of the Survey Sample

Characteristics		n	%
Organizational Characteristics			
Service area*	a. Public safety & emergency management	14	13.9
	b. Energy saving & new/renewable energy development	32	31.7
	c. Natural resource conservation	55	54.4
Organizational age (year)	Younger than 5 years	7	6.9
	5-14 years old	28	27.7
	15-24 years old	32	31.7
	25 years or older	34	33.7
Annual revenue	Less than 50 million won	39	38.6
	50-500 million won	51	50.5
	500 million won or more	11	10.9
Full-time employees	Less than 5 persons	74	73.3
	5-14 persons	21	20.8
	15 persons or more	6	5.9
Personal Characteristics of Respondents			
Job title	President	28	27.7
	Board member/executive director	46	45.6
	Manager level	27	26.7
Work experience in the nonprofit sector (year)	Less than 5 years	22	21.8
	5-14 years	45	44.5
	15-24 years	20	19.8
	25 years or more	14	13.9

* Multiple selection was allowed, and the number are marked based on the principal activity. Among 101 organizations, 32 engage in b & c; 3 engage in a & c; 2 engage in all of three fields.

On behalf of an individual nonprofit organization, individual personnel belonged to the organization responded to the survey. Almost half of individual respondents are board

members or executive directors. The presidents of organizations occupy 27.7 percent. The rest of the respondents are in manager level. Forty-four point five percent of individual respondents have 5 to 14 years of work experience of in the nonprofit sector. Around 20 percent and 14 percent of individual participants have worked in the nonprofit organizations for 15 to 24 years and 25 years or more, respectively. The rest of respondents (21.8%) have less than 5 years of nonprofit working experience.

Table 4.5: Structure of the Survey Questionnaire

Parts	Questions
Part I. Organization information	<ul style="list-style-type: none"> • Fields of activities • Relevant administrative agency • Service region • No. of members in board of directors • No. of full-time employee • Annual revenue • Founding year
Part II. Contribution to collaboration	<ul style="list-style-type: none"> • Level of collaboration in the following terms: power, joint activities, human resource, funding, and information • Organizational perception of the followings: collaborative capacity, government funding, red tape, social relationship, social learning, and community support
Part III. Nonprofit roles	Level of the organizational performance in the following terms: service provision, innovation, individual expression, political advocacy, citizen engagement, and social capital creation
Part IV. Respondent information	<ul style="list-style-type: none"> • Job title • Working experience in nonprofit sector

The survey questionnaire composes of four parts (see Appendix A). The first part is to obtain general information on organizations such as main activities. The second part is associated with the first research question (i.e., what factors explain nonprofit organizations' contribution to collaborative governance for climate change adaptation?), and thus including a set of statements that address contribution to collaboration (i.e., dependent variable) and

factors expected to influence nonprofit contribution to interorganizational collaboration (i.e., independent variables). The next part of survey questionnaire is related to the second research question (i.e., what are the roles of nonprofits in collaborative governance for climate change adaptation?). The part includes statements about six types of nonprofit roles in collaboration (i.e., service provision, innovation, individual expression, political advocacy, citizen engagement, and social capital creation). The last part questions personal information on the respondents (e.g., job title and working experience).

4.3 Measurements

4.3.1 Contribution of Nonprofits Organizations to Collaboration

4.3.1.1 Dependent Variable

To answer the first research question, “what factors explain nonprofits organizations’ contribution to collaborative governance?”, *Contribution to collaboration* is employed as a dependent variable. The concept of *contribution to collaboration* is defined as actual sharing of information, resources, activities, and power to achieve mutual goals (see Chapter 2). To capture how much nonprofits actually work together with others to successfully achieve shared goals, a dependent variable is operationalized as a composite measure of five indicators: (a) power, (b) joint activities, (c) human resource/expertise, (d) funding, and (e) information. A majority of the indicators are created based on the definition of collaboration (Bryson et al., 2006) to measure the concept directly. Power sharing requires common goals and jointly exercising capabilities to achieve the goals (Crosby & Bryson, 2005). Resources are measured in terms of human resource and financial resource separately.

Each indicator is measured by a relevant statement presented in Table 4.6, respectively.

For example, to capture to what extent a nonprofit contributes to collaboration in terms of power sharing, a statement of “My organization works together with other organizations to set goals or make decisions.” is employed. Information sharing is measured by a statement, “My organization develops data and shares information for climate change adaptation with other organizations (e.g., sharing best practice, opening data to other organizations or the public, etc.).” Level of contribution to collaboration in terms of each indicator is measured based on Likert scale from 1 (“strongly disagree”) to 5 (“strongly agree”), respectively. Then, a composite measure is calculated as a mean value of five indicators, ranging from 1 to 5. Cronbach’s alpha was checked to ensure reliability. There is a possibility that this operationalization cannot account for all components of collaboration. But narrowing survey statements to fit to the conceptual definition improves validity (Dixon et al., 2016) and facilitates respondents’ understanding and responding to the survey questions. Composite measure also contributes to validity since it reflects multi-dimensional concept of collaboration.

4.3.1.2 Independent Variables

The study examines the influence of four sets of factors on nonprofits’ contribution to collaborative governance: organizational factors (*Board size* and *Collaborative capacity*), government factors (*Government funding* and *Red tape*), interorganizational factors (*Social relationship* and *Social learning*), and community factors (*Demographic diversity* and *Community support*). Table 4.6 presents the measurements of independent variables.

Board size, one of organizational factors, is measured as a categorical variable (i.e., small if board members are 6 or less; medium if board members are between 7 and 15; and large for 16 or more). It has been employed to capture whether board size influence collaboration as

linkage with external organizations (Guo & Acar, 2005; Ihm & Shumate, 2019; MacIndoe & Sullivan, 2014). It is generally agreed that ideal number of board members is 7 to 15 (Montes, 2019). As the other organizational factor, *Collaborative capacity* is utilized to reflect organization's perception of ability to manage the collaborative relationship (Gazley & Brudney, 2007). Collaborative capacity is measured based on Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree") by a survey statement, "my organization has sufficient staffs and time to manage the collaborative relationship."

Government funding is employed as one of government factors. It is measured to capture influences of funding from governments on organizational collaboration (Andrew, Jung, et al., 2015; Gazley & Brudney, 2007; Jang & Feiock, 2007). It is measured with Likert scale of 1 ("strongly disagree") through 5 ("strongly agree") using the statement, "major programs of my organization are funded by governments." Another government factor, *Red tape*, is a proxy of the perception of administrative delay caused by regulations, rules, and procedures. It is measured based on organization's perception of whether regulations, rules, and administrative procedures of the government constrain activities of the organization, with a five-point Likert scale (1 for "strongly disagree" and 5 for "strongly agree").

Interorganizational factors include *Social relationship* and *Social learning*. *Social relationship* is measured by a survey statement, "my organization has maintained formal/informal relationships with other organizations, i.e., government agencies, nonprofits, and private sector." Response is scaled from 1 ("strongly disagree") to 5 ("strongly agree"). The variable captures whether pre-existing social relationship of an organization with other parties increases contribution to collaboration (Jang et al., 2016; Kapucu & Demiroz, 2015; Simo & Bies,

2007). *Social learning* is measured by a survey item, “my organization enhances understanding of climate change adaptation and acquires knowledge by participating in learning programs such as conferences and seminars.” Response is based on a Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The variable captures whether the experiences of social learning influence nonprofits’ contribution to collaborative governance.

As community factors, *Demographic diversity* and *Community support* are employed. To capture demographic diversity (or homophily) within a group, scholars have been utilized various indices such as race (Kwon & Feiock, 2010; LeRoux et al., 2010; LeRoux & Carr, 2007), gender (Kagzi & Guha, 2018; Pelled, 1996; Sacco & Schmitt, 2005), and age (Kagzi & Guha, 2018; Kim et al., 2013; Sacco & Schmitt, 2005). This study considers age of community members to capture demographic diversity among community members served by the nonprofit organization. The perceptions related to climate change (i.e., causes, severity, and adaptation measures) differ by age group (ME, 2007). Thus, age is a proper index to capture demographic diversity concerning climate change adaptation. *Demographic diversity* is measured using Blau’s index ($1 - \sum \rho_i^2$), where ρ_i is a proportion of group members in i -th group. Blau’s index has been known as the optimal measure to capture the diversity of people within a group (Harrison & Klein, 2007; Miller & del Carmen Triana, 2009). The age group is categorized into under 15 years old (i.e., young population), between 15 and 64 years old (i.e., working age population), and 65 years old or older (i.e., old population). Data of age is retrieved from 2010 Population and Housing Census of South Korea. *Community support* is used to reflect how much an organization perceives support for its activities within community. It is operationalized using a

5-point Likert scale (1 for “strongly disagree”; 5 for “strongly agree”) based on a survey statement, “Activities of my organization are supported by community.”

4.3.1.3 Control Variables

It has been argued that organizational characteristics as annual revenue (Bryson et al., 2015; Jang & Feiock, 2007; Jang et al., 2016), and age (Bryson et al., 2015) influence nonprofit organizations’ contribution to collaboration. In this study, influences of those characteristics are controlled. *Annual revenue* is measured as the natural log of an organization’s annual revenue as of 2019 (Guo & Acar, 2005; Jang et al., 2016). *Organizational age* is measured as the difference between 2019 and the year when a nonprofit organization was established (Guo & Acar, 2005).

Table 4.6: Measurements of Variables

Construct	Measurements	
Dependent Variable		
Contribution to collaboration	a. Power. My organization works together with other organizations to set goals or make decisions.	For each index, 1 (strongly disagree); 5 (strongly agree) Mean value: 1 to 5
	b. Joint activities. My organization engages in various joint activities for climate change adaption (e.g., conference, campaign, developing legislative policy statements, etc.).	
	c. Human resource/expertise. My organization provides and receives staffs or experts to support activities for climate change adaptation (e.g., technical or administrative assistance).	
	d. Funding. My organization makes investment, donation, or fundraising for climate change adaption.	
	e. Information. My organization develops data and shares information for climate change adaptation with other organizations (e.g., sharing best practice, opening data to other organizations or the public, etc.).	

(table continues)

Construct	Measurements	
Independent Variables		
Board size	How many members does your organization have in board of directors (or its equivalents)?	Logged value
Collaborative capacity	My organization has sufficient staff and time to manage the collaborative relationship.	1 (strongly disagree); 5 (strongly agree)
Government funding	Major programs of my organization are funded by governments.	1 (strongly disagree); 5 (strongly agree)
Red tape	Regulations, rules, and administrative procedures of the government constrain activities of my organization	1 (strongly disagree); 5 (strongly agree)
Social relationship	My organization has maintained formal/informal relationships with other organizations, i.e., government agencies, nonprofits, and private sector.	1 (strongly disagree); 5 (strongly agree)
Social learning	My organization enhances understanding of climate change adaptation and acquires knowledge by participating in learning programs such as conferences and seminars.	1 (strongly disagree); 5 (strongly agree)
Demographic diversity	Blau’s diversity index based on age of community members (Source: 2010 Population and Housing Census of South Korea)	$1 - \sum \rho_i^2$, (ρ_i : proportion of group members in i-th group)
Community support	Activities of my organization are supported by community.	1 (strongly disagree); 5 (strongly agree)
Control Variables		
Annual revenue	Total revenue (2019)	Logged value
Organizational age	Difference between 2019 and the year when a nonprofit organization was established	

4.3.2 Roles of Nonprofit Organizations in Collaborative Governance

The roles of nonprofits, based on the typology of Moulton and Eckerd (2012) (i.e., service provision, innovation, individual expression, political advocacy, civic engagement, and social capital creation), are operationalized by a set of survey statements describing

performance of the nonprofit organizations. The dissertation uses survey items proposed by Moulton and Eckerd (2012).

Respondents were asked by a statement, “To what extent does following statements appropriately describe the performance of your organization?” The items include three sub-statements for each role. For example, a role as *service provision* is measured by followings: (a) My organization meets “an unmet need for a particular type of program/service in our community”; (b) My organization provides “high-quality programs/services”; and (c) My organization provides “cost-efficient programs/services.” The other role of nonprofits, *innovation*, is measured by statements: (a) My organization tries out “new ideas and approaches to programs/services”; (b) My organization provides “programs/services that have not been provided before in this community”; and (c) My organization serves “users/clients that have not targeted before for our types of services/programs (p.21).” Table 4.7 presents survey items for nonprofit roles. To prevent respondents from being aware of a set of roles and to improve validity, 18 sub-statements are presented in a mixed order instead of grouping by role. Response of each sub-statement is scaled by five-point Likert scale (1 for “not at all”; 2 for “a little”; 3 for “somewhat”; 4 for “quite a bit”; and 5 for “very much”).

To ensure validity of measurement, I adopt survey items used in existing study (Moulton & Eckerd, 2012). However, there were the concerns about bias or errors due to cultural difference or language difference in measuring the roles of nonprofit organizations in South Korea with survey statements developed in the United States. Thus, factor analyses (i.e., principal component analyses) were conducted to check if the principal components were based on the measured responses (DeCoster, 1998).

Table 4.7: Survey Items for Measurements of the Nonprofit Roles

To what extent does following statements appropriately describe the performance of your organization?		1 (not at all); 5 (very much) Mean value: 1 to 5
Construct	Measurements	
Service provision	<ul style="list-style-type: none"> Service1. My organization meets an unmet need for a particular type of program/service in our community. Service2. My organization provides high-quality programs/services. Service3. My organization provides cost-efficient programs/services. 	
Innovation	<ul style="list-style-type: none"> Innovation1. My organization tries out new ideas and approaches to programs/services. Innovation2. My organization provides programs/services that have not been provided before in this community. Innovation3. My organization serves users/clients that have not targeted before for our types of programs/services. 	
Individual expression	<ul style="list-style-type: none"> Expression1. My organization provides a vehicle for private donors to express their values through our programs/services. Expression2. My organization supports for staffs to express their faith through work. Expression3. My organization engages volunteers in critical activities within the organization. 	
Political advocacy	<ul style="list-style-type: none"> Political1. My organization participates in government committees or commissions. Political2. My organization meets with public officials and staff and provides testimony on policy issues. Political3. My organization participates in coalitions with other organizations for the purpose of influencing policy. 	
Citizen engagement	<ul style="list-style-type: none"> Citizen1. My organization participates in or promotes voter education and participation. Citizen2. My organization participates in/promotes public education campaigns. Citizen3. My organization organizes community around social issues. 	
Social capital creation	<ul style="list-style-type: none"> Social1. My organization promotes a sense of community among our users/clients. Social2. My organization brings together people of different political/economic backgrounds through our programs/services. Social3. My organization provides a place for people to socialize or feel a sense of belonging. 	

Source: Moulton & Eckerd (2012). Note: Statement (b) for individual expression was revised from original statement proposed by Moulton & Eckerd.

Based on eigenvalues greater than 1, factors were extracted. Three items with loadings less

than 0.5 (i.e., *Expression2*, *Citizen2*, and *Social3*) were eliminated through the first factor analysis for measured data for 18 survey items, and then factor analysis for the rest of 15 survey items was reconducted. Table 4.8 reports a result of the final factor analysis. Survey items for service provision, innovation, and political advocacy load strongly on the relevant factor, respectively.

Table 4.8: Factor Analysis of Nonprofit Roles Items

Survey Items	Service Provision & Innovation	Political Advocacy	Individual Expression & Social Capital
Service1	0.525 ^a	0.107	0.471
Service2	0.832 ^a	0.108	0.050
Service3	0.691 ^a	- 0.076	0.314
Innovation1	0.794 ^a	0.021	0.076
Innovation2	0.726 ^a	0.012	0.273
Innovation3	0.803 ^a	0.229	0.058
Expression1	0.312	0.347	0.458 ^a
Expression3	0.160	- 0.150	0.713 ^a
Political1	0.114	0.741 ^a	0.004
Political2	0.182	0.496 ^a	0.390
Political3	0.000	0.794 ^a	0.010
Citizen1	0.053	0.775 ^a	0.015
Citizen3	0.122	0.323	0.669 ^a
Social1	0.213	- 0.010	0.813 ^a
Social2	- 0.070	0.518	0.487 ^a

Note: Principal component analysis (orthogonal rotation, Varimax) was used to extract factors. *Superscript a* presents a loading greater than 0.4, which indicates a strong loading on the given factor.

However, two exceptions were observed. *Citizen1* and *Citizen3* load strongly on political advocacy (0.775) and social capital creation roles (0.669), respectively. That is, it is identified that citizen engagement role of nonprofit was not separately measured. The result might be attributed to the partial linkages among political advocacy, citizen engagement, and social

capital creation roles as discussed in Chapter 3. Political advocacy, in a broad sense, refers to indirect efforts to influence political issues (Boris & Mosher-Williams, 1998). In this sense, voter education to encourage citizen participation to policy decision-making might be aligned with the efforts to influence policy making. Likewise, citizen engagement is often associated with social capital creation in that the community aggregation that promotes horizontal relationships based on mutual trust encourages citizen engagement in public issues (Putnam, 1993). Eventually, five types of nonprofit role that are exclusive of citizen engagement were extracted through the factor analyses.

Nonprofit roles were operationalized as composite measures of respective indicators that were extracted through the factor analysis presented in Table 4.8. Service provision role is calculated as a mean value of respective three indicators (Cronbach's $\alpha=0.735$). Innovation role is also computed as a mean of three indicators for innovation (Cronbach's $\alpha=0.762$). The nonprofit role of political advocacy is measured as a mean of three political advocacy role items and an item for citizen engagement (*Citizen1*) (Cronbach's $\alpha=0.729$). Social capital creation role is computed as a mean of two items for social capital creation and an item for citizen engagement (*Social1*, *Social2*, and *Citizen3*) (Cronbach's $\alpha=0.622$). Individual expression role was finally excluded from the analysis because the two survey items for the role (*Expression1* and *Expression3*) had low reliability (Cronbach's $\alpha=0.480$). Because four roles are not mutually exclusive, each nonprofit organization has four values (ranging from 1 to 5) that account for roles of *service provision*, *innovation*, *political advocacy*, and *social capital creation*, respectively. The composite measure of multiple indicators for each role improves validity than use of single indicator with consideration of multiple attributes of each role.

CHAPTER 5

DATA ANALYSIS AND FINDINGS

5.1 Nonprofit Contribution to Collaboration for Climate Change Adaptation

5.1.1 Determinants of Nonprofit Contribution to Collaboration

To identify factors influencing nonprofit contribution to collaboration, three models were analyzed. Model 1 employs eight main explanatory variables (i.e., *Board size*, *Collaborative capacity*, *Government funding*, *Red tape*, *Social relationship*, *Social learning*, and *Demographic diversity*, and *Community support*). Model 2 additionally includes control variables (i.e., *Annual revenue* and *Organizational age*) to Model 1. To see if the other model has a better fitness, I introduced Model 3 by adding a curvilinear term of *Organizational age*. The descriptive statistics for the independent variables was conducted, and the result is shown in Table 5.1.

Table 5.1: Descriptive Statistics of Explanatory Variables

Predictor	Observation	Mean	SD	Min	Max
Board size	101	20.77	24.539	2	150
Collaborative capacity	101	3.14	1.000	1	5
Government funding	101	2.79	1.329	1	5
Red tape	101	2.98	0.927	1	5
Social relationship	101	3.81	0.784	1	5
Social learning	101	3.82	0.963	1	5
Demographic diversity	101	0.44	0.037	0.35	0.55
Community support	101	4.07	0.697	3	5

Multicollinearity and multivariate outliers were checked. Table 5.2 presents a result of multicollinearity. No multicollinearity was observed for Model 1 and Model 2 (i.e., all VIF values were less than 10). However, multicollinearity between linear term and quadric term of

Organizational age was detected in the Model 3 (i.e., VIF is 11.504 for linear term; 10.822 for squared term). It is not problematic because correlation between linear term and curvilinear term is commonly observed. There were no potential multivariate outliers in the three models.

Table 5.2: Multicollinearity Statistics

Predictor	Model 1		Model 2		Model 3	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
Board size (small) ^a	0.702	1.424	0.695	1.439	0.694	1.441
Board size (large) ^a	0.646	1.547	0.609	1.643	0.604	1.656
Collaborative capacity	0.792	1.262	0.770	1.298	0.743	1.346
Government funding	0.941	1.063	0.938	1.066	0.887	1.128
Red tape	0.940	1.064	0.921	1.086	0.920	1.086
Social relationship	0.747	1.338	0.741	1.349	0.725	1.379
Social learning	0.600	1.667	0.587	1.703	0.587	1.704
Demographic diversity	0.915	1.093	0.800	1.250	0.800	1.250
Community support	0.630	1.587	0.629	1.590	0.623	1.605
Annual revenue (logged)			0.838	1.193	0.822	1.216
Organizational age			0.811	1.233	0.087	11.504
(Organizational age) ²					0.092	10.822

a. Medium is the reference group.

I conducted the ordinary least square (OLS) regressions for the three models because distribution of *Contribution to collaboration* was close to normal distribution. Table 5.3 shows linear regression models for nonprofit contribution to collaboration. Model 3 best accounts for the relationship between nonprofit contribution level to collaboration and determinants (i.e., Adjusted R²=0.346). Thus, findings are discussed with the focus on the Model 3. Table 5.3 reports that government funding, social relationship, annual revenue, and organizational age influence nonprofit contribution to collaboration for climate change adaptation.

Table 5.3: Linear Regression Models for Nonprofit Contribution to Collaboration

Predictor	Model 1		Model 2		Model 3	
	b	β	B	β	b	B
Organizational Factors						
Board size (small) ^a	- 0.085	- 0.055	- 0.120	- 0.076	- 0.131	- 0.084
Board size (large) ^a	- 0.191	- 0.148	- 0.174	- 0.135	- 0.198	- 0.153
Collaborative capacity	0.040	0.062	0.065	0.100	0.042	0.065
Government Factors						
Government funding	0.160***	0.328	0.154***	0.315	0.173***	0.355
Red tape	- 0.016	- 0.022	- 0.032	- 0.045	- 0.033	- 0.048
Interorganizational Factors						
Social relationship	0.296***	0.357	0.281***	0.339	0.304***	0.367
Social learning	0.021	0.030	0.024	0.036	0.021	0.031
Community Factors						
Demographic diversity	- 0.434	- 0.025	0.486	0.028	0.410	0.024
Community support	0.129	0.138	0.121	0.130	0.140	0.150
Control Variables						
Annual revenue (logged)			0.195**	0.196	0.171*	0.171
Organizational age			- 0.008	- 0.148	0.019	0.365
(Organizational age) ²					- 0.0005*	- 0.527
Constant	1.721*		- 0.004		- 0.161	
R ²	0.355		0.399		0.425	
Adjusted R ²	0.291		0.325		0.346	
Model F	5.555		5.373		5.413	
Model degree of freedom	91		89		88	

Note: N = 101; b = unstandardized regression coefficient; β = standardized regression coefficient. * $p \leq .1$, ** $p \leq .05$, *** $p \leq .01$. a. Medium is the reference group.

One finding is that government funding to nonprofit organizations tends to increase their contribution level to collaboration for climate change adaptation (i.e., $b = 0.169$, $p \leq 0.01$), i.e., the result supports hypothesis 3. It has been widely known that, for nonprofit

organizations, receiving financial resources is a critical motivation to work with the government. The finding indicates that the financial support from governments extends the partner of nonprofit collaboration from the government to other sectors such as other nonprofit organizations and private organizations. Public funding increases financial stability of organizations, and thus nonprofit organizations with more public funding are capable of reducing collaboration costs (i.e., loss of autonomy and mission drift, etc.) than nonprofits with less government funding (Jang et al., 2016).

Another finding is concerning the relationship between the social relationship and nonprofit contribution to collaboration. Hypothesis 5 is to test whether the existing relationships of nonprofit organizations with others promote the nonprofit organizations to contribute to collaborative governance for climate change adaptation. The prediction is supported. The positive and significant coefficient of the independent variable, social relationship, indicates that nonprofit organizations' social ties with various organizations tend to increase level of contribution to collaboration for climate change adaptation (i.e., $b = 0.297$, $p \leq 0.01$). This finding suggests that the routine interaction between organizations builds mutual trust and, in turn, facilitates collaboration to achieve common goals with less collaboration costs than co-works with new partners (Kwon & Feiock, 2010; LeRoux et al., 2010).

I do not find any statistical evidence of association between other independent variables (i.e., board size, collaborative capacity, perception of red tape, social learning, demographic diversity, and community support) and nonprofit contribution to collaboration. Even though board size does not have statistical significance, Table 5.3 reports that all the signs of coefficient

of small and large board are negative. The negative directions are maintained in the following regression analyses with only one exception (see Table 5.5). It needs to be noted that Hypothesis 1b (i.e., Nonprofits with large size of board are less likely to contribute to collaborative governance than nonprofits with medium size of board) is partly supported in the analysis for each component of the dependent variable. Details are addressed later.

As for the control variables, I, interestingly, find that age of nonprofit organization has a nonlinear relationship with the nonprofit contribution to collaboration (i.e., $b = -0.0002$, $p \leq 0.05$). The negative sign of quadratic term of organizational age suggests that the relationship between age of the nonprofit organization and collaboration level presents concave shape. However, because linear term of *Organizational age* does not have statistically significant coefficient, I cannot confirm the relationship. There are three possible cases. One possibility is that the level of nonprofit contribution to collaboration increases up to a certain age of the organization and then decreasing. Another possibility is that nonprofit contribution to collaboration declines with increasing slopes when the organizational age increases. In contrast, nonprofit organization's contribution to collaboration might be decreasingly increased as the nonprofit organization gets older.

It is also found that annual revenue of the nonprofit organization is positively associated with the degree of contribution to collaboration. Based on resource dependence theory, organizations with resource insufficiency are more likely to develop collaborative relationships with other organizations to receive or share resources. However, the finding of my dissertation is that nonprofit organizations with larger annual revenue tend to more contribute to collaboration for climate change adaptation than nonprofits with smaller annual revenue. An

explanation of the finding might be that nonprofits with small revenue could be discouraged from engaging in collaboration since they have higher risks of autonomy loss in the partnerships than large nonprofits (Guo & Acar, 2005). From the other perspective, the finding might be explained that large nonprofits are more attractive to the potential partners than small nonprofits because large resource implies higher possibility of resource sharing through the collaboration (Foster & Meinhard, 2002; Guo & Acar, 2005).

5.1.2 Effects of Determinants on Each Component of the Nonprofit Contribution to Collaboration

The contribution to collaboration was measured in terms of power, joint activities, human resource, funding, and information. To examine the influences of independent variables on each component of the dependent variable (i.e., *Contribution to collaboration*), descriptive analysis and the OLS regression analysis for five components of *Contribution to collaboration* were conducted. Table 5.4 presents descriptive statistics.

Table 5.4: Descriptive Statistics of the Contribution to Collaboration

	Observation	Mean	SD	Min	Max
Contribution to Collaboration	101	3.68	0.649	2.00	5.00
Power	101	3.71	0.852	1	5
Joint activities	101	4.00	0.812	1	5
Human resource/expertise	101	3.32	1.095	1	5
Funding	101	3.50	1.137	1	5
Information	101	3.86	0.895	1	5

In general, nonprofit organizations more frequently collaborate in terms of joint activities and information sharing than human resource sharing and financial resource transfer. More

specifically, nonprofit organizations often held campaigns together or develop legislative policy statements jointly (i.e., mean value of joint activities is 4.00). However, it is less frequent for nonprofits to provide/receive staffs and experts to/from other organizations for technical or administrative assistance of climate change adaptation than other collaborative activities (i.e., mean value of human resources/expertise is 3.32).

The OLS regression for each component of the dependent variable provides some notable findings that are not observed in the previous analysis (compare Table 5.3 and Table 5.5). First, as aforementioned, the prediction concerning the relationship between board size and nonprofit contribution to collaboration is partly supported. To test whether the board size of nonprofit organizations is associated with collaboration level (Hypothesis 1b), board size was categorized into small, medium, and large board, and medium-sized organization was a reference group. Despite no presence of significant coefficients of small board, Table 5.5 reports that nonprofit organizations with large board are less likely to contribute to collaboration in terms of power sharing (i.e., setting goals and making decisions together) and information sharing than nonprofits with medium board (i.e., $b = -0.342$, $p \leq 0.1$ for power sharing; $b = -0.258$, $p \leq 0.1$ for information sharing). This finding empirically supports that nonprofit organizations with large board have difficulties in making collaboration decision due to disagreement among several board members (Aggarwal et al., 2012).

Another finding is that collaborative capacity of the nonprofit organizations is positively associated with collaboration in terms of human resource (i.e., $b = 0.244$, $p \leq 0.05$). That is Hypothesis 2 is supported. Based on resource dependence theory, organizations seek for sharing of staffs and experts due to insufficiency of the human resource. However, shortage of

the staffs or time to manage the collaborative relationship makes nonprofits hesitate to collaborate with others due to the risks of autonomy loss and mission drift (Gazley & Brudney, 2007; Guo & Acar, 2005).

There is an interesting finding concerning the relationship of social learning and collaboration. Social learning is positively associated with the information sharing but negatively associated with the collaboration in terms of funding (i.e., $b = 0.539$, $p \leq 0.01$ for information sharing; $b = -0.229$, $p \leq 0.1$ for funding). My prediction is that nonprofit experiences of social learning tend to increase contribution to collaboration, i.e. in terms of both information and funding sharing (Hypothesis 6). The test result for funding contradicts the prediction whereas the prediction concerning information sharing is supported. It might be because trust fostered by social learning (i.e., competence trust) promotes information sharing, relatively discouraging funding sharing. According to Jiang et al. (2015), competence trust, which refers to rational evaluation of the other's abilities (Rempel et al., 1985) and is developed by learning, promotes sharing of intangible resources (e.g., knowledge and skills) rather than tangible resources (e.g., funds and equipment), but goodwill-based trust, which is strengthened by routine interaction, increases sharing of tangible resources rather than intangible resources. The finding suggests that mutual learning promotes knowledge sharing because it increases understanding of complexities of climate change and increases mutual trust in the organizational capacity of climate change adaptation. However, it is also suggested that mutual learning may have the effect of relatively restricting the sharing of funds that does not require complex knowledge or skills.

Table 5.5: Linear Regression Models for Each Components of the Contribution to Collaboration

Predictor	Unstandardized regression coefficient, b				
	Power	Joint Activities	Human Resources	Funding	Information
Organizational Factors					
Board size (small) ^a	- 0.280	- 0.176	- 0.030	0.092	- 0.261
Board size (large) ^a	- 0.342*	- 0.269	- 0.063	- 0.059	- 0.258*
Collaborative capacity	0.027	- 0.055	0.244**	- 0.074	0.069
Government Factors					
Government funding	0.163**	0.038	0.281***	0.309***	0.075
Red tape	- 0.105	- 0.034	- 0.006	- 0.127	0.104
Interorganizational Factors					
Social relationship	0.365***	0.507***	0.285*	0.231	0.130
Social learning	- 0.035	- 0.012	- 0.159	- 0.229*	0.539***
Community Factors					
Demographic diversity	2.452	- 4.879**	1.806	1.930	0.741
Community support	- 0.032	0.153	0.101	0.314*	0.162
Control Variables					
Annual revenue (logged)	0.219*	0.202*	- 0.125	0.508***	0.050
Organizational age	0.032	0.025	0.017	- 0.031	0.053***
(Organizational age) ²	- 0.0008**	- 0.0007**	- 0.0004	0.0007	- 0.0013***
Constant	- 0.443	2.253	1.009	- 2.640	- 0.984
Adjusted R ²	0.146	0.285	0.163	0.249	0.597
Model F	2.422	4.324	2.628	3.756	13.349

Note: N = 101; Model degree of freedom = 88; * $p \leq .1$, ** $p \leq .05$, *** $p \leq .01$. a. Medium is the reference group.

Table 5.5 also reports that demographic diversity of community negatively influences nonprofit contribution to collaboration of joint activities (i.e., $b = -4.879$, $p \leq 0.05$). That is, demographic diversity within community tends to decrease nonprofit collaboration level in terms of alliance activities such as campaign and making legislation (Hypothesis 7). In my dissertation, demographic diversity is measured based on age of community members. Preferences for climate change adaptation differ by age (ME, 2007). Nonprofit organizations in demographically diverse communities are struggling to fairly represent decentralized community interests (LeRoux & Carr, 2007), and, in turn, those nonprofits are less likely to work with others. It implies that nonprofit collaboration for climate change adaptation can be encouraged by creating processes for gathering the diverse opinions within the community and developing strategies to lead consensus.

Community support is another factor that influences contribution to collaboration. It is empirically supported that community support tends to increase nonprofit contribution to collaboration in terms of funding (i.e., $b = 0.314$, $p \leq 0.1$). For nonprofit organizations, program operation and financing are largely separated while, for business, provision of services is directly related to revenue (Foster et al., 2009). In the same sense, for nonprofits, the community is a marketplace (i.e., community members are clients of the nonprofit) and simultaneously an important source of funding (i.e., community members are donors of the nonprofit). Thus, nonprofit decision-making about operation of funds requires understanding of both client values and donor values. Furthermore, legitimacy and accountability are critical for nonprofits to achieve their mission, and they can be maintained based on the support of the communities in which the nonprofits serve.

Notably, the analysis for separate items of the dependent variable allows to infer the effect of organizational age on a certain part of collaboration, namely, information sharing. The coefficients of organizational age-related terms are statistically significant (i.e., $b = 0.053$, $p \leq 0.01$ for linear term; $b = -0.001$, $p \leq 0.01$ for squared term), which indicates that the level of nonprofit collaboration (i.e., information sharing) increases up to a certain age and then falling. It is inferred that nonprofit contribution to collaboration is maximized when the nonprofit organizations are about 21 years old.

5.2 Nonprofit Roles in Climate Change Adaptation

5.2.1 General Tendency of the Nonprofit Role

To investigate what the roles of nonprofit organizations are in climate change adaptation, six types of nonprofit roles proposed by Moulton and Eckerd (2012) were measured, and four roles (i.e., service provision, innovation, political advocacy, and social capital creation) were finally identified through the factor analysis and reliability check (Cronbach's alpha) (see Chapter 4). Because each organization can play multiple roles simultaneously with different levels for each role, data are analyzed in two ways. First, to see the overall statistical features of the nonprofit roles, all measured nonprofit role values (i.e., 101 values for each role) were included in the descriptive statistics. Table 5.6 present the result. The social capital creation role has the highest mean value, but no clear dominance of one role over others was observed. Political advocacy role has the lowest mean value, and variability of the distribution is relatively higher than other roles.

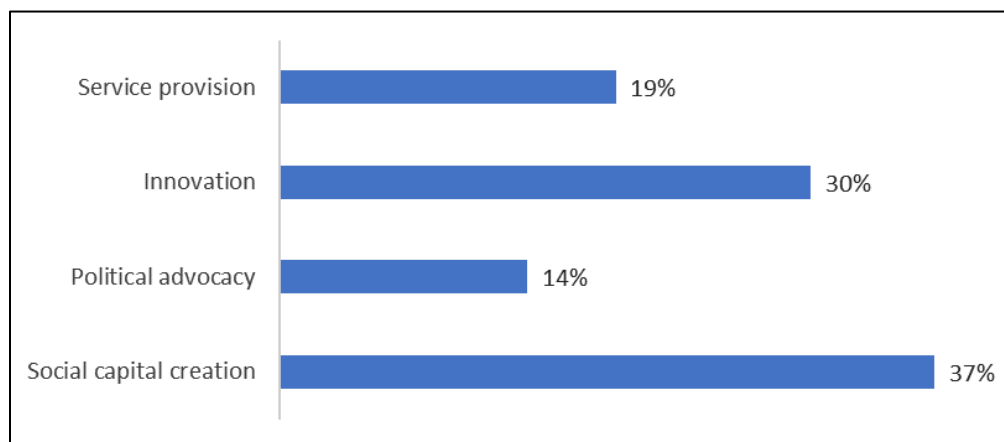
As an alternative, I included only the main role of each organization in the analysis to find out what role nonprofits mainly play in climate change adaptation. The main role of each

nonprofit was selected with the highest value among the four role values, that is, each organization represents only the main role. Then the frequency of each four roles selected as a main role was counted. If more than one role had the same maximum value, they were all counted. Considering only the main role(s) of each organization creates noticeable differences in frequency among the four nonprofit roles, and thus helping readers understand the characteristics of Korean nonprofit roles in climate change adaptation (Figure 5.1).

Table 5.6: Descriptive Statistics of Nonprofit Roles

Nonprofit Roles	Observation	Mean	SD	Min	Max
Service provision	101	3.61	0.612	2.00	5.00
Innovation	101	3.65	0.637	2.33	5.00
Political advocacy	101	3.23	0.785	1.00	5.00
Social capital creation	101	3.70	0.638	2.00	5.00

Figure 5.1: Frequency of the Nonprofit Roles in Climate Change Adaptation



Note: Total frequency of the main roles is 131 since 20 and 7 nonprofit organizations have two and three main roles, respectively. Four organizations with the same values for all four roles were excluded in this analysis.

The role of social capital creation is most frequently played among the Korean nonprofit organizations (i.e., 37%). Many nonprofit organizations are operated in the form of a coalition of central headquarters and regional offices. For example, the Korean Federation of

Environmental Movements, which consists of 54 regional offices, work jointly nationwide in some cases, and individually in other cases. Regional offices take various activities such as campaigns to reduce greenhouse gas emission and protect environment within the community. Those activities attract attention among local residents and mobilize community members, and thus finally raising a sense of community for climate change adaptation.

Prevalence of social capital creation role in Korea might be explained by the culture of Korea. First, *we-ness* (*Uri* in Korean) is one of the key concepts that describe Korean culture. *We-ness* emphasizes community goals rather than individual interests, and values social relationships among members within the community (Yang, 2019). A sense of community is an important factor that motivates individuals to be willing to contribute to solving common problems or reaching community goals (Choi & Jeong, 2015).

Also, it needs to be noted that the concept of social capital has been traditionally embedded in Korean society. As a representative example, from the 17th century to the early 20th century, village-level joint labor groups called *Dure* were prevalently operated to jointly do agricultural tasks that required a lot of labor. This traditional activity is consistent with the social capital theory in that engaging in *Dure* is “an investment of personal resource” (i.e., labor force) based on “expected returns (p.19)” for the profit (Lin, 2001). In other words, *Dure* is a social asset that is created through the connection between community members and that each member can access. Understanding of the Korean culture suggests that forming a community on social issues and encouraging a sense of community among members has been effectively used to solve common problems in society.

As for the nonprofit role of political advocacy, various nonprofit organizations have worked to improve or develop policies for climate change adaptation. As a representative example, the Korea NGO's Network has held policy discussions, seminars, and symposiums on energy-related issues such as the electricity rate system and energy voucher system. However, the result reports that the political advocacy role is least frequently played by Korean nonprofits (i.e., 14%). One possible explanation is that Korean nonprofit organizations are limited in their political advocacy function due to financial limitations. Since nonprofits in Korea are generally in poor financial condition and are dependent on the government funding (Park, 2007). Public funding tends to reduce organizational autonomy (Jung & Moon, 2007). As a result, publicly funded nonprofits are less inclined to speak out about policy than financially independent nonprofits. Also, grassroots nonprofit organizations are more effective to understand civic preference in the community than large nonprofits, so they can serve as political advocates successfully (Hall, 2010; Park, 2007). However, many nonprofit organizations in Korea, especially environmental nonprofits, have centralized organizational structure.

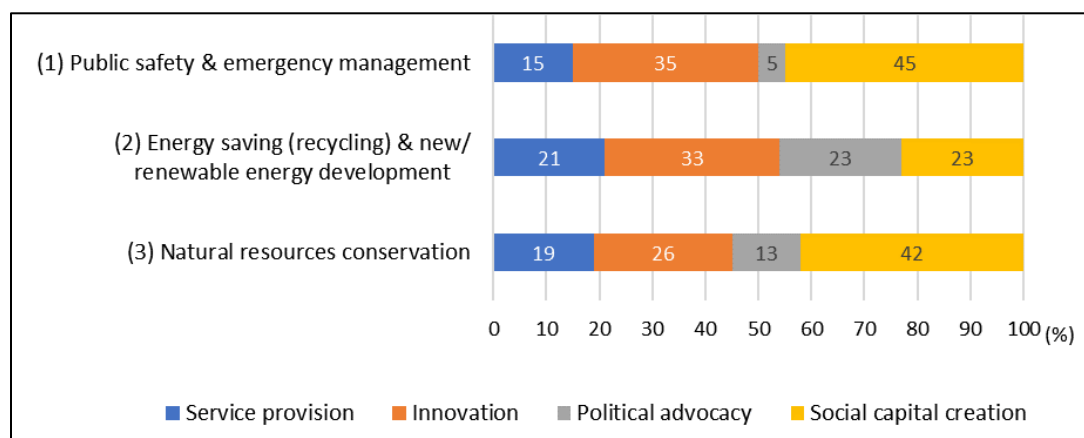
The other possibility is found in the characteristics of climate change adaptation policies. If a particular policy brings benefits (or costs) to the people as a whole, organized support (or resistance) does not arise as the impact of the policy is distributed throughout society. Conversely, if the impact of a particular policy is expected to be concentrated in particular interest groups, the interest groups systematically and strongly advocate (or deny) the policy (Wilson, 1984). Climate change policies tend to impose costs on the industrial sector in that they are mandatory (e.g., installation of cleanup facilities) and regulatory (e.g., limiting the use of fossil fuels). But benefits of the policies are not limited to the industrial sector but

distributed to the public. Thus, organizational resistance from the industry to the policy is expected, but the corresponding strong public support will not arise. When the conflict between stakeholder groups is considerable, nonprofit organizations are difficult to influence the policy formation process (Kim & Kim, 2004), that is, their role of policy advocacy reduces.

5.2.2 Comparison of the Nonprofit Roles by Service Areas

To examine whether there are any patterns in nonprofit roles by service areas, frequency of the main roles were compared for three nonprofit service areas informed in Chapter 4: (1) public safety and emergency management: disaster risk assessment, search and rescue, reliefs, rebuilding infrastructure, etc., (2) energy saving (recycling) and new/renewable energy development, and (3) natural resources conservation: conservation of species, nature conservation (river, ocean, and forest), etc. Main role(s) of each organization was(were) selected by the same procedure as the previous section.

Figure 5.2: Comparison of Nonprofit Roles in Climate Change Adaptation by Service Areas



In the previous part, it is found that the role of social capital creation is played the most by Korean nonprofit organizations, but that the political advocacy role is the least. Nonprofit organizations engaged in public safety and emergency management (Category 1) and

nonprofits working for conservation of natural resources (Category 3) have the same pattern. In other words, the role of social capital creation is the most frequent (i.e., 45% for category 1; 42% for category 3), and the role of innovation is the second highest, followed by the role of service provision. The political advocacy role is the least frequent (i.e., 5% for category 1; 13% for category 3).

However, nonprofit organizations working for energy saving and development (Category 2) present a different pattern. Innovation role occupies the most (i.e., 33%), and the rest three roles have almost same portions with each other (i.e., 23% of social capital creation role, another 23% for political advocacy, and 21% of service provision). Possible explanations are found from the features of the field. The knowledge and technology related to energy saving and development of new or renewable energy change more dynamically than in other fields like disaster management and environment. Thus, new ideas and approaches differentiated from the existing ones are more required in nonprofit activities of technology development and dissemination. The recent policy trends in energy field are another possible explanation. In recent years, relevant laws (e.g., *Act on the Promotion of Development, Use, and Distribution of New and Renewable Energy* and *Act on the Promotion of Saving and Recycling of Resources*) have been amended, and new policies are being promoted, such as creating an energy-independent village, reorganizing electricity bills, and implementing an energy voucher system. It suggests that such a policy environment has relatively increased the role of policy advocates, i.e., making the role of nonprofits in the energy-related field in recent years becomes crucial.

CHAPTER 6

CONCLUSION

6.1 Summary of Findings

6.1.1 What Influences Nonprofit Contribution to Collaboration?

The dissertation examines, based on the ICA framework, what influences nonprofit contribution to collaboration for climate change adaptation in South Korea. The effects of factors on nonprofit collaboration are examined in two ways. First, effects of explanatory variables on *Contribution to collaboration*, a composite of five indicators (power, joint activities, human resources, funding, and information), are analyzed (Analysis 1). Then, effects of explanatory variables on each of the five components of dependent variable are analyzed (Analysis 2).

The first regression model of nonprofit collaboration (Analysis 1) reports some findings. First, government funding to nonprofit organizations has a positive effect on nonprofit collaboration. The finding suggests that, despite collaborative risks such as mission drift and loss of autonomy, the financial support of government is a critical motive for nonprofit collaboration, as public funds increase the financial stability of the organization. I also find the significant effect of social relationship on nonprofit collaboration. Existing interactions between nonprofit organizations and other organizations reinforce mutual trust (Ostrom, 2000) and reduce the cost of collaboration resulting from opportunism and shirking (Kwon & Feiock, 2010; LeRoux et al., 2010), and thus leading nonprofit organizations to more contribute to collaborative governance.

Although the effects of organizational age and revenue size are not main interests of the

study, I find the two factors are associated with the nonprofit contribution to collaboration. Age of nonprofit organization has a nonlinear relationship with its collaboration level. Revenue has a significant effect on the degree of nonprofit collaboration. The finding suggests that the nonprofit organization with large revenue is encouraged to collaborate because financial advantage increases the likelihood of gaining an edge in partnerships (Guo & Acar, 2005).

I do not find significant effects of other main predictors (i.e., board size, collaborative capacity, perception of red tape, social learning, demographic diversity, and community support) on nonprofit collaboration through Analysis 1. However, the analyses of relationships between predictors and each components of dependent variable (Analysis 2) report several findings. Board size has, in part, a significant effect on nonprofit collaboration in terms of power sharing and information sharing. Despite no evidence for small board, nonprofit organizations with large board are less likely to contribute to collaboration than nonprofits with medium-sized board. The finding suggests that nonprofit organizations with large board have higher risks of disagreement in decision-making than nonprofits with medium board (Aggarwal et al., 2012).

Collaborative capacity is positively associated with human resource sharing. It suggests that nonprofit organizations with sufficient human resource are encouraged to collaborate as they can take the initiative in the relationship. Interestingly, social learning tends to increase information sharing but tends to decrease funding sharing. It might be attributed to the type of trust fostered by learning (i.e., competence trust). Competence trust, rational evaluation of the other's abilities, promotes sharing of intangible resources such as knowledge and skills rather than tangible resources like funds because sharing of intangible resources requires expertise

(Rempel et al., 1985). The finding suggests that mutual learning may encourage knowledge sharing, and thus relatively restricting funds sharing.

The other finding is that demographic diversity of community is negatively associated with joint activities. It suggests that nonprofit organizations in demographically diverse communities are struggling to fairly represent decentralized community interests (LeRoux & Carr, 2007), and, in turn, those nonprofits are less likely to work with others. I also find that community support positively influences collaboration in terms of funding. For nonprofit organizations, community members are clients they serve and the source of funds. Thus, nonprofit decision-making concerning operation of funds requires understanding of both client values and donor values. It suggests that the support of community members as clients and donors facilitates the decision-making for funding sharing.

6.1.2 What are the Nonprofit Roles in Climate Change Adaptation?

The dissertation identifies Korean nonprofit roles in collaborative governance for climate change adaptation. Based on nonprofit role typology suggested by Moulton and Eckerd (2012), roles of service provision, innovation, political advocacy, and social capital creation are identified. In general, the role of social capital creation is observed most frequently, with the role of innovation being second, followed by the role of service delivery. The political advocacy role is least observed. One possible explanation of social capital creation role is that *we-ness* (*Uri* in Korean), which focuses community goals and social relationships with community members (Yang, 2019), is one of the key concepts describing Korean culture. Another explanation might be that the concept of social capital has been traditionally embedded in Korean society. It is representatively exemplified by a traditional labor group, *Dure*. Based on

expected returns on individual labor investment, Koreans carried out agricultural work jointly at the village level. The phrase, *Sang Bu Sang Jo* (相扶相助) stands for a key concept of the Korean culture of joint work based on social capital. *Sang* (相) means each other, and *Bu* (扶) and *Jo* (助) means helping.

Concerning political advocacy role of Korean nonprofits, financial condition of the organizations might give an explanation. Many nonprofit organizations in Korea rely on government funding (Park, 2007), and thus being discouraged from giving voice to governments. It might be explained by the features of climate change policies as well. Since climate change policies are generally regulatory and mandatory, the policies cost industry but distribute benefits to the public. Thus, the industry is expected to resist systematically, but strong public support will not occur (Wilson, 1984). Strong conflicts between stakeholder groups hinder nonprofits from influencing the policy-making process (Kim & Kim, 2004).

Nonprofit roles in different three service areas are compared. I find that nonprofit organizations working for energy saving and development present a different pattern from other two (i.e., emergency management and natural resource conservation). Innovation roles are the dominant, and the other three are observed in similar proportions. It might be due to the dynamics of the knowledge and technology involved, requiring more new ideas and approaches in the energy-related field. Considering the recent improvements in energy saving and development legislations and policies, it is also suggested that the policy environment surrounding energy sector has relatively increased the policy advocacy role of nonprofits in recent years.

6.2 Contribution to Scholarship and Practice

The dissertation has theoretical and practical implications. First, this study contributes to the literature on interorganizational collaboration by considering contribution to collaboration. Despite abundant studies on collaboration among various entities, little research has addressed contribution to collaboration. Entering into collaboration (i.e., measured by a dichotomous variable) does not necessarily mean actually doing things necessary to achieve mutual goals successfully. I consider the level of collaboration in the different five aspects, namely, power, joint activities, human resources/experts, funding, and information. By considering actual contribution to achieving goals, this study provides insightful knowledge about interorganizational collaboration.

The study also expands the institutional collective action framework to understanding the nonprofit collaboration. With a notable exception (Jang et al., 2016), existing literature using the ICA framework focus on explaining collaboration of local governments (Andrew, Jung, et al., 2015; Feiock, 2009; Hawkins & Andrew, 2010; Kwon & Feiock, 2010; Tavares & Feiock, 2014). In understanding why nonprofit organizations contribute to collaboration, it is important to identify collaborative benefits and risks that nonprofit organizations expect. This research sheds light on identifying determinants of nonprofit contribution to collaboration by applying the ICA framework to the mechanism of overcoming collective action problems that nonprofit organizations engage.

The dissertation contributes to scholarship of the nonprofit roles by comparing the three typologies of nonprofit role and empirically identifying nonprofit roles in collaborative governance. Scholars have conducted empirical studies on a specific nonprofit role (Child &

Grønbjerg, 2007; LeRoux, 2007, 2009; McDonald, 2007; Mosley, 2010), but few studies, except for Moulton and Eckerd (2012), have empirically analyzed multiple roles of nonprofit organizations simultaneously. Based on Moulton and Eckerd's work (2012), this dissertation identifies that Korean nonprofits mainly function as social capital creators in collaborative governance for climate change adaptation, while having the least role in political advocacy. Also, by comparing nonprofit roles by service area, the study empirically demonstrates that the main role of nonprofit organizations differs among nonprofit services areas.

Practically, categorized determinants of nonprofit collaboration employed in this research strengthen nonprofit contribution in collaborative governance. The study employs eight factors that fall into four categories (i.e., organizational, government, interorganizational, and community factors), and then identifies what factors influence nonprofit collaboration in terms of power, joint activities, human resources/experts, funding, and information sharing. Practitioners can develop balanced strategies that promote nonprofits to co-work effectively, taking into account the internal and external environmental factors of nonprofit organizations.

6.3 Limitations and Suggestions for Future Study

Despite contribution to academia and practice, the dissertation has three major limitations. In this part, limitations of the study are described. Then, based on the limitations, I make suggestions for future study.

First, the study has a limitation associated with operationalization of the dependent variable (i.e., *Contribution to collaboration*). The level of collaboration was measured based on respondents' perceptions of collaboration in terms of power, joint activities, human resources, funds, and information. Despite its common utilization, measurements with the individual

perception may not capture actual collaboration level. There is a possibility that some responses are influenced by personal values and experiences. Also, individual expertise on the organization may influence the perception of collaboration level even though staffs savvy about the organizations' activities (i.e., president, board members, executive directors, or equivalent staffs) participate to the survey. To minimize the impact of individual perception on the collaboration level, I give two suggestions for the future study. First, future research can measure the level of collaboration utilizing objective measures (e.g., official documents, frequency of joint activities, number of shared employees, amount of shared funds). Also, future study can use mean value of the level of collaboration perceived by two or three respondents for each organization.

Second, operationalization of nonprofit roles in South Korea using survey instruments developed in different culture may have a limitation in generalization of the findings. The dissertation utilizes survey items proposed by Moulton and Eckerd (2012). Despite the advantage of existing study in ensuring validity, there may be biases or errors due to cultural differences between the two countries. I intended to identify six different roles of nonprofit (i.e., service delivery, innovation, individual expression, political advocacy, citizen participation, and social capital creation) but failed to identify all six. Only four roles were identified except for individual expression and citizen participation. Korean culture emphasizes we relatively more than I, compared to Western culture. For the reason, participation in the nonprofit sector may be perceived with more association with creating public interests within a community (i.e. creating social capital) than expressing individual values and beliefs. Thus, future study is suggested to conduct the comparative analysis of nonprofit roles in Asian country and Western

country. Comparative studies can help us understand the commonalities and differences of nonprofit roles across countries in different cultures. Furthermore, comparative studies can contribute to developing survey indicators for nonprofit roles that are more generally applicable to countries in different cultures.

Third, small sample size of the survey may limit the generalization of the findings. Due to the low accessibility to the nonprofit organizations, final number of observations applied to the regression analysis to investigate determinants of nonprofit collaboration and nonprofit roles in collaborative governance is 101. Small sample size might result in under-representativeness of a certain subgroup within a population while large sample size increases validity of the inferred causal relationship. To address this limitation, future studies can conduct in-depth interviews as a complementary research tool to the survey. In-depth interviews can help us understand the mechanisms that lead nonprofit organizations to collaborate, which are not revealed by a quantitative analysis.

APPENDIX A
SURVEY INSTRUMENT

Regional Collaboration in Climate Change Adaptation Survey

This survey is designed to collect information on nonprofit collaboration with other organizations for climate change adaptation. All information provided will be kept strictly confidential and will only be used for research purpose.

PART I .

1. The government has been pursuing climate change adaptation measures with the main contents of reducing disaster risk due to climate change, energy saving and renewable energy development, and natural environment conservation. In which of the following areas does your organization primarily engage?

- ☐ Public safety and emergency management: disaster risk assessment, search and rescue, reliefs, rebuilding infrastructure, etc.
- ☐ Energy-related: energy saving (recycling) and new/renewable energy development, etc.
- ☐ Natural resources conservation: conservation of species, nature conservation (river, ocean, and forest), etc.
- ☐ Others ()

2. Which of the following organizations is your organization registered to? (*Circle one*)

- ☐ Central government agencies
- ☐ Si (Special Metropolitan City, Metropolitan Autonomous City, and Metropolitan City).
- ☐ Do (including Special Self-Governing Province)

3. Where is your organization located? (Please answer by city/gun/gu)

4. In which of the following areas are the services provided by your organization available?
(Circle one)

☐ Nationwide

☐ Si/Do ()

☐ Si/Gun/Gu ()

5. How many members does your organization have in board of directors (or its equivalents)?

6. How many full-time employees does your organization have? (please include all paid staffs and volunteers) _____

7. How much is your organization's annual revenue in fiscal year 2019?

8. In what year was your organization established?

PART II.

1. To what extent do you agree about following statements describing collaboration of your organization with other organizations for climate change adaptation? (Other organizations include government agencies, other nonprofit organizations, and business sector)

	Strongly Disagree				Strongly Agree
	1	2	3	4	5
1-1. My organization works together with other organizations to set goals or make decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-2. My organization engages in various joint activities for climate change adaption (e.g., conference, campaign, developing legislative policy statements, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-3. My organization provides and receives staffs or experts to support activities for climate change adaptation (e.g., technical or administrative assistance).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-4. My organization makes investment, donation, or fundraising for climate change adaption.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-5. My organization develops data and shares information for climate change adaptation with other organizations (e.g., sharing best practice, opening data to other organizations or the public, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For question 2 - 7, to what extent do you agree about following statements explaining your organization?

	Strongly Disagree				Strongly Agree
	1	2	3	4	5
2. My organization has sufficient staff and time to manage the collaborative relationship.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. My organization has engaged in programs funded by governments (at all levels).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Regulations, rules, and administrative procedures of the government constrain activities of my organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. My organization has maintained formal/informal relationships with other organizations, i.e., government agencies, nonprofits, and private sector.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. My organization enhances understanding of climate change adaptation and acquires knowledge by participating in learning programs such as conferences and seminars.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Activities of my organization are supported by community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PART III.

1. To what extent does following statements appropriately describe the performance of your organization?

	Not at all	A little	Some- what	Quite a bit	Very much
	1	2	3	4	5
1-1. My organization promotes a sense of community among our users/clients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-2. My organization brings together people of different political/economic backgrounds through our programs/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-3. My organization provides a place for people to socialize or feel a sense of belonging.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-4. My organization participates in or promotes voter education and participation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-5. My organization participates in/promotes public education campaigns.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-6. My organization organizes community around social issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-7. My organization participates in government committees or commissions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-8. My organization meets with public officials and staff; providing testimony on policy issues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-9. My organization participates in coalitions with other organizations for the purpose of influencing policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Not at all 1	A little 2	Some- what 3	Quite a bit 4	Very much 5
1-10. My organization tries out new ideas and approaches to programs/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-11. My organization provides programs/services that have not been provided before in this community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-12. My organization serves users/clients that have not targeted before for our types of services/programs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-13. My organization meets an unmet need for a particular type of program/service in our community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-14. My organization provides high-quality programs/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-15. My organization provides cost-efficient programs/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-16. My organization provides a vehicle for private donors to express their values through our programs/services.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-17. My organization supports for staffs to express their faith through work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-18. My organization engages volunteers in critical activities within the organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

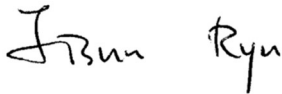
Part IV.

Job Title: _____

Gender: ☐ Male ☐ Female

How many years have you worked in nonprofit organizations? *(If you have worked in two or more nonprofit organizations, please add all experiences.)* _____

Thank you for your help,

A handwritten signature in black ink, appearing to read "Ji Sun Ryu". The signature is written in a cursive, flowing style.

Ji Sun Ryu (Ph.D. Student)

Department of Public Administration
University of North Texas
1155 Union Circle #310617
Denton, TX 76203-0617

APPENDIX B

IRB APPROVAL LETTER



January 6, 2021

PI: Simon Andrew

Study Title: Collaborative Roles of Nonprofits in Climate Change Adaptation Strategies: Institutional Collective Action Framework

RE: Human Subjects Application # IRB-20-272

Dear Dr. Simon Andrew:

The UNT Institutional Review Board (IRB) has received your request to modify your study titled "Collaborative Roles of Nonprofits in Climate Change Adaptation Strategies: Institutional Collective Action Framework." As required by federal law and regulations governing the use of human subjects in research projects, the UNT IRB has examined the request to expand your recruitment to be an international study recruiting nonprofits in South Korea and to revise the informed consent documents to reflect these changes. The modification to this study is hereby approved for use with human subjects.

Attached to your Cayuse application in the Study Detail section under the Attachments tab are the consent documents with IRB approval. Please copy and use this form only for your study subjects.

Please contact The Office of Research Integrity and Compliance at (940) 565-4643, if you wish to make changes or need additional information.

Note: Please do not reply to this email. Please direct all questions to unsirb@unt.edu

Sincerely,

A handwritten signature in black ink, appearing to read 'G Ignatow'.

Gabe Ignatow, Ph.D.
Professor
Chair, Institutional Review Board

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